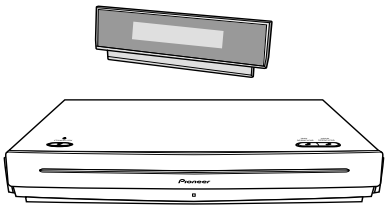
Pioneer sound.vision.soul

Service Manual



XV-DV1000

ORDER NO.
RRV2672

DVD/CD TUNER

XV-DV1000

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Regional restriction codes (Region No.)	Remarks
XV-DV1000	ZUCXJ	DC power supplied from other system component	1	
XV-DV1000	ZVYXJ	DC power supplied from other system component	2	

This product is a system(s) component.
This product does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result. Please connect it to the POWERED SUBWOOFER S-DV1000SW, for adjustment and operation inspection.

Component	System	Service Manual	Remarks
DVD/CD TUNER	XV-DV1000	RRV2672	This Manual
POWERED SUBWOOFER	S-DV1000SW	RRV2692	
SPEAKER SYSTEM	S-DV1000ST	RRV2697	

For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
ⓒ**PIONEER CORPORATION 2002**

T-ZZK OCT. 2002 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

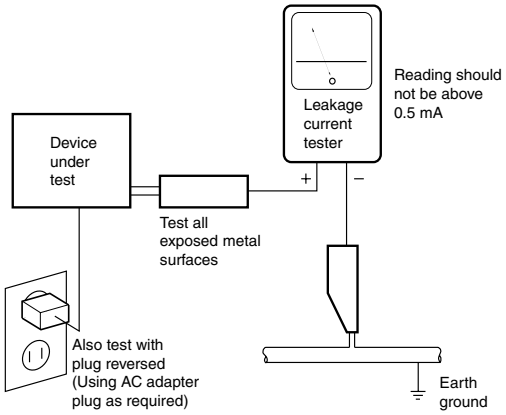
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

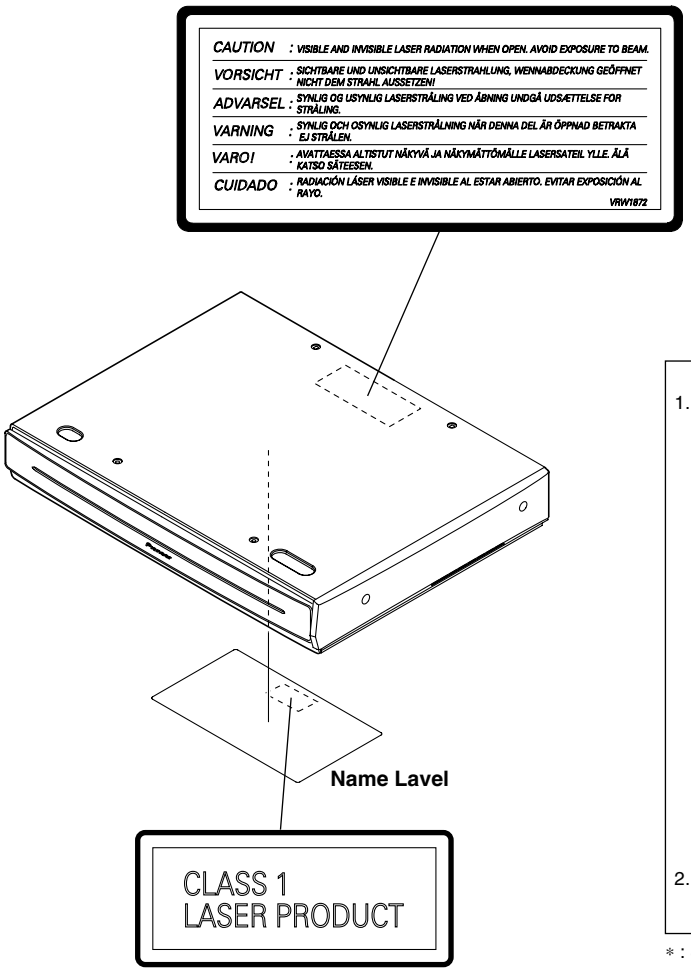
WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 650 nm
FOR CD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 780 nm

LABEL CHECK


CAUTION : VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VORSICHT : SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENNABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN!
ADVARSEL : SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING : SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
VARO! : AVATTAESSA ALTISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESEN.
CUIDADO : RADIACIÓN LÁSER VISIBLE E INVISIBLE AL ESTAR ABIERTO. EVITAR EXPOSICIÓN AL RAYO.
VRW1872
Name Lavel
CLASS 1
LASER PRODUCT

Additional Laser Caution

1. Laser Interlock Mechanism
   - Loading switch (S101 on the LOAB Assy) is used for interlock mechanism of the laser.
     When this switch turned ON in SW2 (XCLOSE) side (OPEN signal is 0V and XCLOSE signal is 3.5V), a laser becomes the status which can completely oscillation.
     Furthermore, the laser completely oscillates in the disc judgment and disc playback.
     When player is power ON state and laser diode is not completely oscillating, 780nm laser diode is always oscillating by half power.
   - Laser diode is driving with Q101 (650nm LD) and Q102 (780nm LD) on the DVDM Assy.
     Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)
   - In the test mode ∗ , there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.
     The interlock mechanism mentioned above becomes invalid in this mode.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

∗ : See page 91.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

Disc / Content Format Playback Compatibility

General Disc Compatibility

- This player was designed and engineered to be compatible with software bearing one or more of the following logos.

DVD-Audio DVD-Video DVD-R DVD-RW

Audio CD Video CD CD-R CD-RW

Super VCD

Super Audio CD

CONTENTS

SAFETY INFORMATION....2
1. SPECIFICATIONS....6
2. EXPLODED VIEWS AND PARTS LIST....8
2.1 PACKING....8
2.2 EXTERIOR SECTION....10
2.3 FRONT PANEL SECTION....12
2.4 LOADING MECHA ASSY....14
2.5 TRAVERSE MECHANISM ASSY-S....16
2.6 DISPLAY UNIT....17
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM....18
3.1 DVD and Video Section BLOCK DIAGRAM....18
3.2 DSP and Control Section BLOCK DIAGRAM....20
3.3 Power Supply Section BLOCK DIAGRAM....22
3.4 LOAB ASSY and OVERALL WIRING DIAGRAM....24
3.5 DVDM ASSY (1/4)....26
3.6 DVDM ASSY (2/4)....28
3.7 DVDM ASSY (3/4)....30
3.8 DVDM ASSY (4/4)....32
3.9 SACDB ASSY....34
3.10 VIDEO (1/2) and REG ASSYS....36
3.11 VIDEO (2/2) and COMPONENT ASSYS....38
3.12 IF ASSY....40
3.13 FM/AM TUNER MODULE (AXQ7228)....42
3.14 FM/AM TUNER MODULE (AXQ7229)....44
3.15 DSP ASSY....46
3.16 DSP TRADE and CONTROL (1/4) ASSYS....48
3.17 CONTROL ASSY (2/4)....50
3.18 CONTROL ASSY (3/4)....52
3.19 CONT.(4/4), STBY KEY, D.SW2, KEY L, TIMER LED, KEY R, O/C KEY, MOTOR, D.SW, and HP ASSYS....54
3.20 OEL CONT and OEL JACK ASSYS....56
3.21 WAVEFORMS....58
4. PCB CONNECTION DIAGRAM....59
4.1 LOAB ASSY....59
4.2 DVDM ASSY....60
4.3 SACDB ASSY....62
4.4 FM/AM TUNER MODULE....63
4.5 VIDEO, REG and COMPONENT ASSYS....64
4.6 IF ASSY....68
4.7 DSP ASSY....70
4.8 DSP TRADE ASSY....71
4.9 CONTROL, MOTOR, DOOR SW and HP ASSYS....72
4.10 STBY KEY, DOOR SW2, KEY L, TIMER LED, KEY R and O/C KEY ASSYS....76
4.11 OEL CONT and OEL JACK ASSYS....78
5. PCB PARTS LIST....79
6. ADJUSTMENT....89
6.1 DVD SECTION ADJUSTMENT....89
6.1.1 Adjustment Items and Location....89
6.1.2 Jigs and Measuring Instruments....89
6.1.3 Necessary Adjustment Points....90
6.1.4 Test Mode....91
6.1.5 Mechanism Adjustment....92
6.2 TUNER SECTION ADJUSTMENT....95
7. GENERAL INFORMATION....96
7.1 DIAGNOSIS....96
7.1.1 ID NUMBER AND ID DATA SETTING....96
7.1.2 SELF-DIAGNOSIS FUNCTION OF PICKUP DETECTIVE....98
7.1.3 TEST MODE SCREEN DISPLAY....99
7.1.4 SELF-DIAGNOSIS FUNCTION....101
7.1.5 FUNCTION SPECIFICATION OF THE SERVICE MODE....102
7.1.6 ERROR DISPLAY....103
7.1.7 TEST POINTS LOCATION AND WAVEFORMS....106
7.1.8 TROUBLE SHOOTING....108
7.1.9 SERVICE TEST MODE....109
7.1.10 STANDBY ON TIMING WAVEFORM....110
7.1.11 SINGLE OPERATION METHOD....111
7.1.12 DISASSEMBLY....112
7.2 IC....121
7.3 CLEANING....160
8. PANEL FACILITIES....161

1. SPECIFICATIONS

Amplifier Section

Continuous Power (RMS).....75 W / channel
(1 kHz, THD 10%, 6 W)

Disc section

Digital audio
characteristics.....DVD fs: 192 kHz, 24-bit
Type.....DVD system, Video CD system and
Compact Disc digital audio system
Frequency response
48 kHz sampling.....4 Hz – 22 kHz
96 kHz sampling.....4 Hz – 44 kHz
192 kHz sampling.....4 Hz – 88 kHz
S/N ratio.....110 dB
Dynamic range.....98 dB
Total harmonic distortion.....0.004 %
Wow and Flutter.....Limit of measurement
(±0.001 % W.PEAK) or less (EIAJ)

FM tuner section

Frequency Range.....87.5 - 108MHz
Antenna.....75 Ω, unbalanced

AM tuner section

FrequencyRange
With 9 kHz step.....531 kHz to 1,602 kHz
With 10 kHz step.....530 kHz to 1,700 kHz
• Frequency step options available with U.S. model only
Antenna.....Loop antenna

Miscellaneous

Power Requirements
European model.....220 – 230 V / 50 – 60 Hz
North American model.....120 V / 60 Hz
Power Consumption
European model.....176 W
North American model.....180 W
Power Consumption in standby mode.....0.4 W
Dimensions:
DVD/CD Tuner.....380 (W) x 71 (H) x 299 (D) mm
15.5 (W) x 2.9 (H) x 12.2 (D) in.
Display Unit.....220 (W) x 61 (H) x 35 (D) mm
Weight:
DVD/CD Tuner.....4.1 kg (6.8 lb.)
Display Unit.....0.22 kg (0.4 lb.)

Accessories

Operating Instructions.....1
Setup guide.....1
Display unit.....1
Remote control unit 1
Power cord.....1
Video Cord.....1
Display cable (gray plugs).....1
Control cable (blue plugs).....1
Control cable (black plugs).....1
FM antenna.....1
AM loop antenna.....1
Dry cell batteries (AA/R6).....2
Allen key wrench.....1
Side panel replacement screws.....4
Speaker cords (15ft. / 5 m).....3
Speaker cords (30 ft. / 10 m).....2
Sheet of small non-slip pads.....20
Sheet of large non-slip pads.....4
Subwoofer isolation feet (European model).....4
Warranty Card.....1

Note :

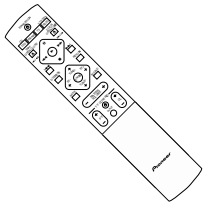
• The specifications and design of this product are subject to change without notice, due to improvement.

• Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.
• “DTS” is a registered trademark of DigitalTheater Systems, Inc.

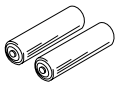
This product's instructions are contained within the instruction manual of the related system component(s).
The manual is packed with those component(s).
This product's accessories etc. are packed with its related component(s).

accessories

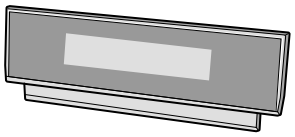
Remote control unit
(KUCXJI : AXD7340)
(MYXJI, NVXJI : AXD7339)



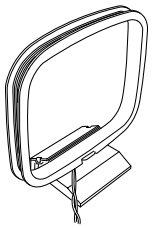
Dry cell batteries
(sizeAA/R6P) x2



Display unit (AXX7142)

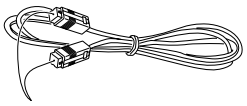


AM loop antenna
(ATB7009)



FM antenna
(KUCXJI : ADH7007)
(MYXJI, NVXJI : ADH7010)

Control cable A
(ADE7064)

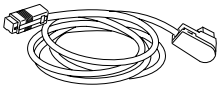


Blue plugs

Control cable B
(ADE7079)

Black plugs

Display cable
(ADE7077)

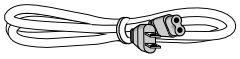


Gray

Video cord
(VDE1024)

Yellow plugs

Power cord
(KUCXJI : ADG7022)
(MYXJI : ADG1154)
(NVXJI : ADG1156)

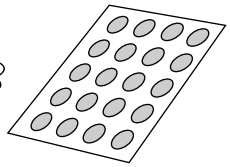


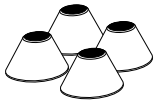
Speaker cords
5 m x3 (for center, front L-R speakers)
(SDS1115) (SDS1116) (SDS1117)

10 m x2 (for rear L-R speakers)
(SDS1118) (SDS1119)

Operating instructions / Warranty

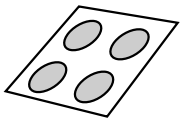
Non-slip padsx20
(SEC1635)

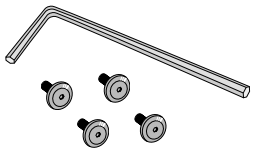




European model only:
Isolation feet x4
(SXK1049)

Non-slip pads
(subwoofer) x4
(SEC1563)



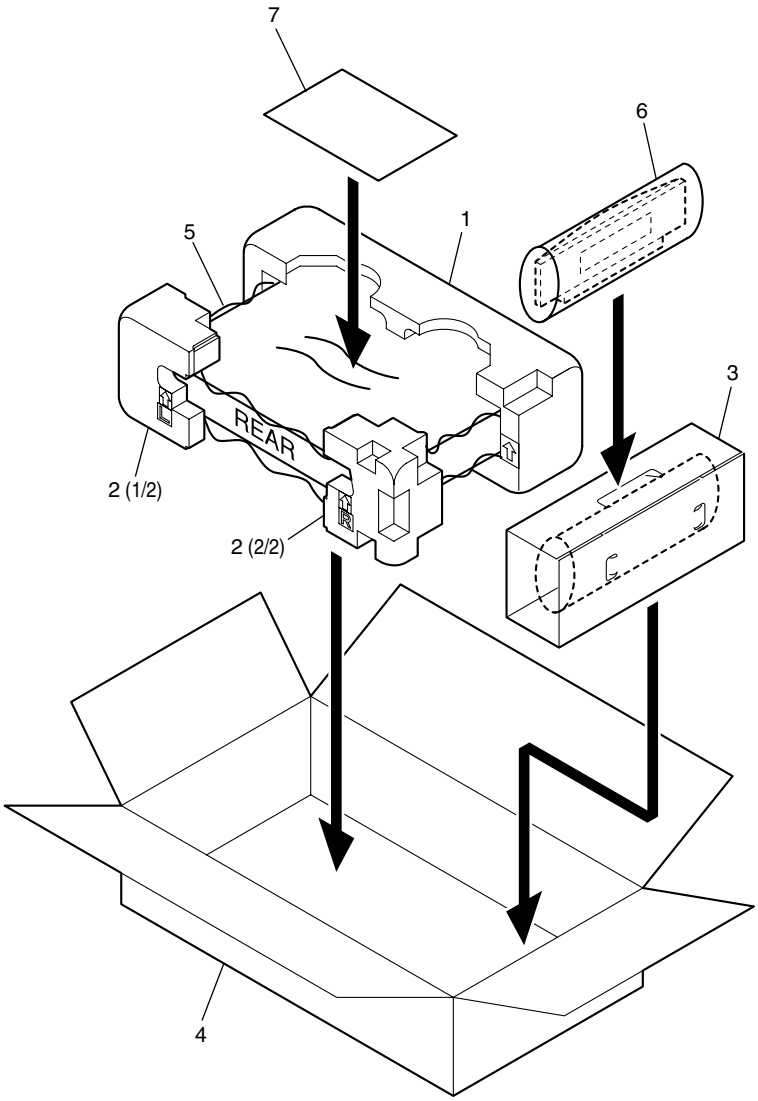


Allen key wrench
& 4 screws
(AEF7007)
(ABA7089)

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING parts List

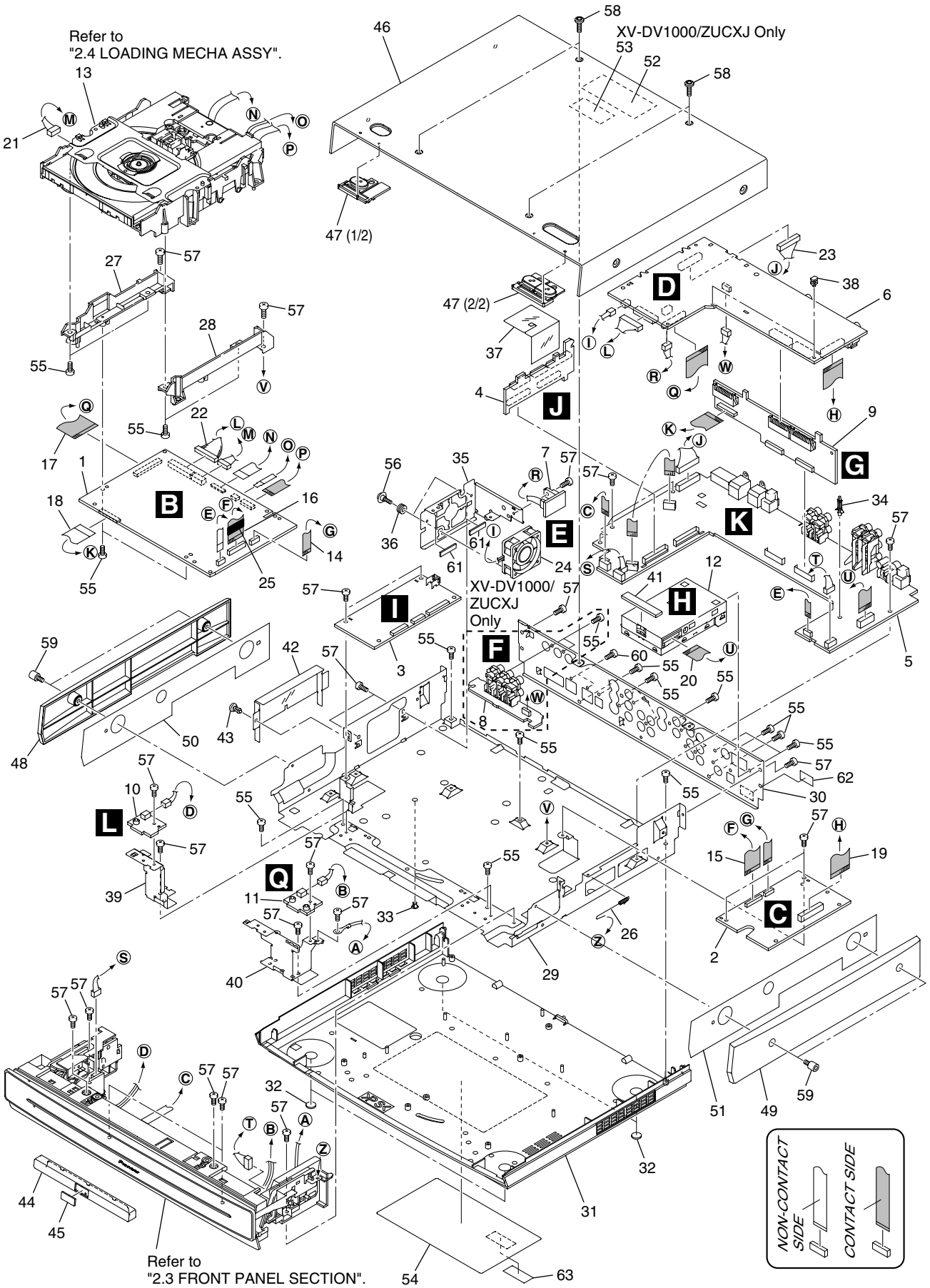
Mark	No.	Description	Part No.
	1	Front Pad	AHA7393
	2	Rear Pad	AHA7394
	3	Spacer	AHB7066
	4	Packing Case	See Contrast table (2)
	5	Packing Sheet	AHG7015
	6	Packing Sheet	AHG7073
NSP	7	Warranty Card	See Contrast table (2)

(2) CONTRAST TABLE

XV-DV1000/ZUCXJ and ZVYXJ are constructed the same except for the following :

Mark	NO	Symbol and Description	XV-DV1000/ ZUCXJ	XV-DV1000/ ZVYXJ
	4	Packing Case	AHD8095	AHD8094
NSP	7	Warranty Card EL	ARY7007	Not used
NSP	7	Warranty Card	Not used	ARY7022

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

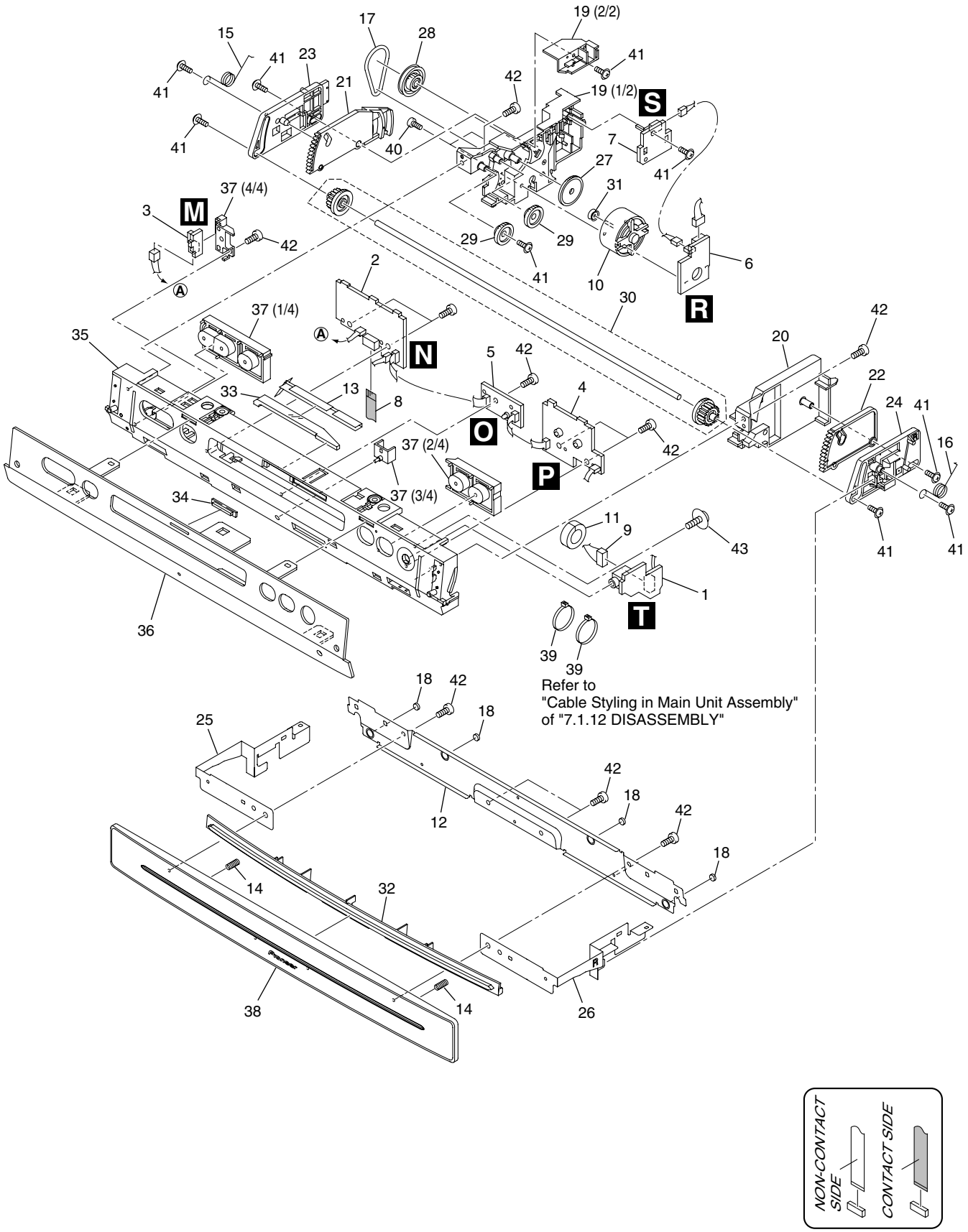
Mark	No.	Description	Part No.
	1	DVDM Assy	AWX8156
	2	SACDB Assy	AWX8157
	3	DSP Assy	AWX8188
	4	DSP TRADE Assy	AWU7981
	5	CONTROL Assy	See Contrast table (2)
	6	VIDEO Assy	See Contrast table (2)
	7	REG Assy	AWU8046
	8	COMPONENT Assy	See Contrast table (2)
	9	IF Assy	AWU7987
	10	STBY KEY Assy	AWU7992
	11	O/C KEY Assy	AWU7993
	12	FM/AM TUNER Module	See Contrast table (2)
NSP	13	LOADING MECHA Assy	VWT1188
	14	20P FFC/30V	ADD7383
	15	40P FFC/30V	ADD7384
	16	07P FFC/30V	ADD7385
	17	30P FFC/30V	ADD7386
	18	21P FFC/30V	ADD7387
	19	21P FFC/30V	ADD7388
	20	13P FFC/30V	ADD7391
	21	Connector Assy	PG05KK-G15
	22	Connector Assy	PG13KK-G25
	23	Connector Assy	PG14KK-G17
	24	DC FAN Motor	AXM7024
	25	Ferrite Core	ATH7009
	26	Earth Spring	ABH7223
	27	Adapter 12 L	ANW7231
	28	Adapter 12 R	ANW7245
	29	Bottom Plate	ANA7143
	30	Rear Panel	See Contrast table (2)
	31	Bottom Base	AMA7027
	32	Leg	AEB7090
NSP	33	PC Support	VEC1749
	34	MSPLS Support	AEC7450
	35	DSP Angle	ANG7436
	36	Rubber Bushing	AEB7291
	37	FFC Barrier	AEC7451
NSP	38	PCB Spacer (3X6)	AEC7156
	39	Angle L	ANG7434
	40	Angle R	ANG7435
	41	Leg	AEB7197
	42	FAN Barrier	AEC7452
	43	Push Rivet	AEC7025
	44	Tray Cap	AAK8052
	45	DVD-A/V Plate	VAM1118
	46	Top Panel	ANE7301
	47	Top Button Assy	AXG7166
	48	Side Panel L	See Contrast table (2)
	49	Side Panel R	See Contrast table (2)
	50	Side Sheet L	AWL7062
	51	Side Sheet R	AWL7063
	52	Label	VRW1872
	53	65 Label	See Contrast table (2)
NSP	54	Name Label	See Contrast table (2)
	55	Screw	BPZ30P080FZK
	56	Screw (3*11.5)	ABA7071
	57	Screw	BBZ30P080FMC
	58	Screw A	ABA7088
	59	Screw C	ABA7091
	60	Screw	PSC30P080FNI
	61	FAN Spaser	AEB7293
NSP	62	ID Label	VRW1877
NSP	63	Label	VRW1629

(2) CONTRAST TABLE

XV-DV1000/ZUCXJ and ZVYXJ are constructed the same except for the following :

Mark	NO	Symbol and Description	XV-DV1000/ ZUCXJ	XV-DV1000/ ZVYXJ
	5	CONTROL Assy	AWU7982	AWU7979
	6	VIDEO Assy	AWU7983	AWU7980
	8	COMPONENT Assy	AWU7984	Not used
	12	FM/AM TUNER Module	AXQ7228	AXQ7229
	30	Rear Panel	ANC8110	ANC8093
	48	Side Panel L	AAK8081	AAK8050
	49	Side Panel R	AAK8082	AAK8051
	53	65 Label	ARW7050	Not used
NSP	54	Name Label	AAK7295	AAK7294

2.3 FRONT PANEL SECTION



FRONT PANEL SECTION parts List

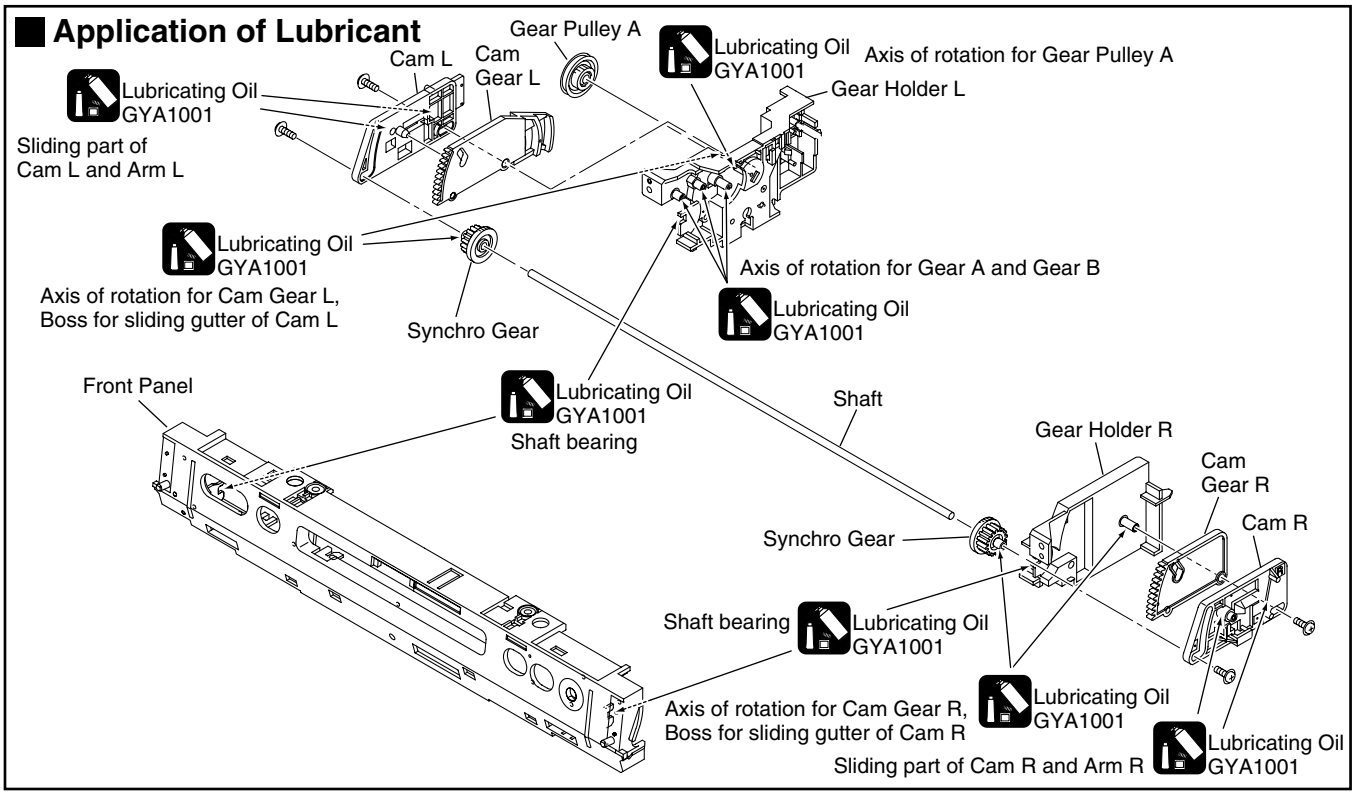
Mark	No.	Description	Part No.
	1	HP Assy	AWU7988
	2	KEY L Assy	AWU7989
	3	DOOR SW2 Assy	AWU7990
	4	KEY R Assy	AWU7991
	5	TIMER LED Assy	AWU7994
	6	MOTOR Assy	AWU7995
	7	DOOR SW Assy	AWU7996
	8	07P FFC/30V	ADD7389
	9	Connector Assy 5P	ADE7089
	10	Slider Motor	VXM1033
	11	Ferrite Core	ATH7010
	12	Door Cover	ANG7437
	13	Reflector Sheet	AAK8073
	14	Door Spring	ABH7224
	15	Spring AL	ABH7225
	16	Spring AR	ABH7226
	17	Belt	AEB7171
	18	Cushion	AEB7292
	19	Gear Holder L	AMR7427
	20	Gear Holder R	AMR7428
	21	Cam Gear L	AMR7429
	22	Cam Gear R	AMR7430
	23	Cam L	AMR7431
	24	Cam R	AMR7432
	25	Arm L	ANG7421
	26	Arm R	ANG7422
	27	Gear A	ANW7063
	28	Gear Pulley A	ANW7066
	29	Gear B	ANW7250
	30	Shaft Assy	AXG7161
	31	Motor Pulley	PNW1634
	32	Door Escutcheon	AAK8046
	33	DVD Lens	AAK8048
	34	STBY Lens	AAK8049
	35	Front Panel	AMB7821
	36	Front Panel	See Contrast table (2)
	37	Front Button Assy	AXG7167
	38	Door Assy	See Contrast table (2)
NSP	39	Binder (BK-1)	ZCA-BK1
	40	Screw	PMZ26P040FMC
	41	Screw	Z39-019
	42	Screw	BPZ30P080FZK
	43	Screw With Washer	ABA1005

(2) CONTRAST TABLE

XV-DV1000/ZUCXJ and ZVYXJ are constructed the same except for the following :

Mark	NO	Symbol and Description	XV-DV1000/ ZUCXJ	XV-DV1000/ ZVYXJ
	36	Front Panel	ANB7304	ANB7293
	38	Door Assy	AXG7178	AXG7168

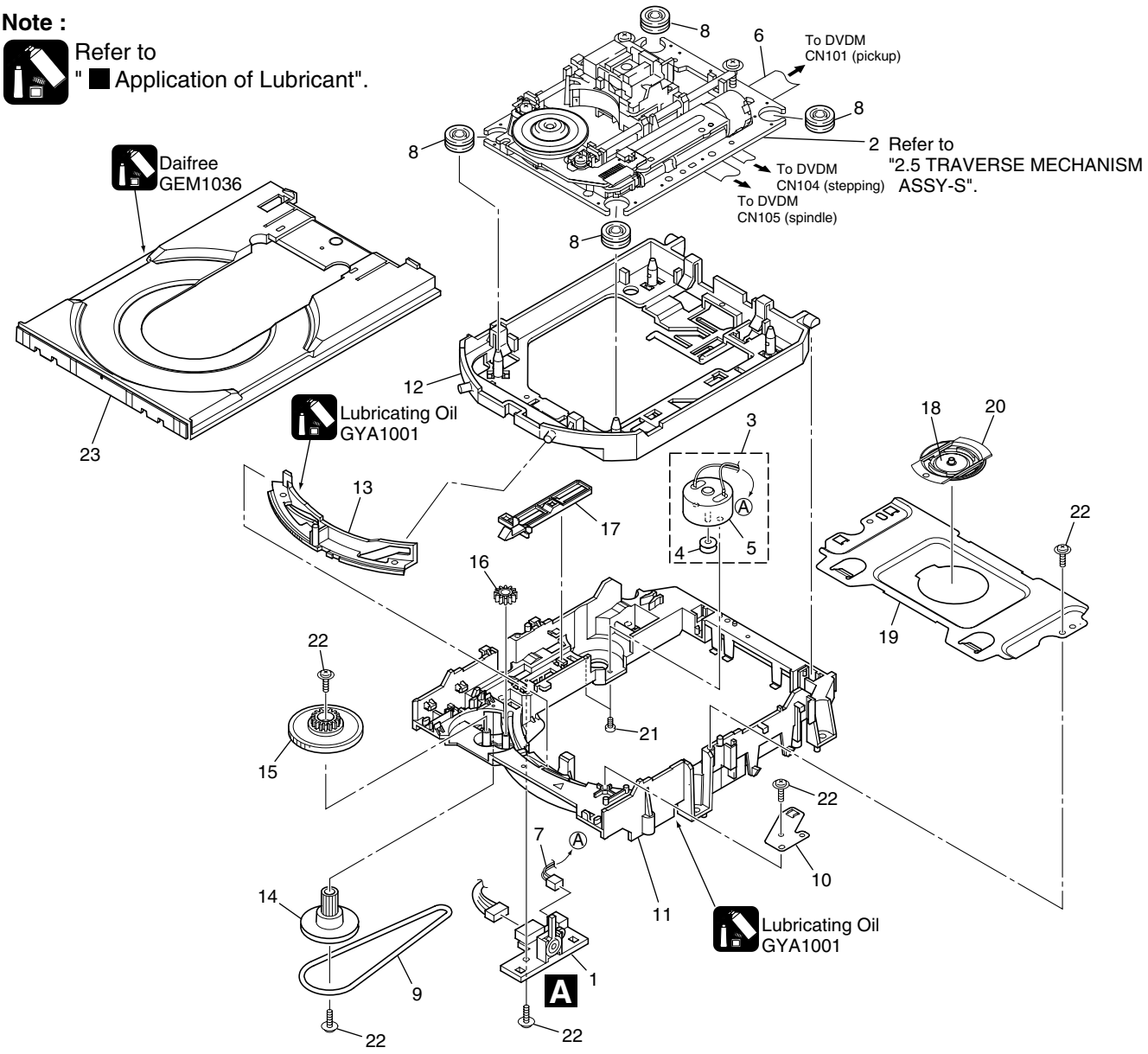
Application of Lubricant


Gear Pulley A
Cam L
Cam Gear L
Lubricating Oil GYA1001
Axis of rotation for Gear Pulley A
Gear Holder L
Lubricating Oil GYA1001
Sliding part of Cam L and Arm L
Lubricating Oil GYA1001
Axis of rotation for Cam Gear L, Boss for sliding gutter of Cam L
Synchro Gear
Axis of rotation for Gear A and Gear B
Lubricating Oil GYA1001
Front Panel
Lubricating Oil GYA1001
Shaft bearing
Shaft
Gear Holder R
Cam Gear R
Cam R
Synchro Gear
Shaft bearing
Lubricating Oil GYA1001
Lubricating Oil GYA1001
Axis of rotation for Cam Gear R, Boss for sliding gutter of Cam R
Lubricating Oil GYA1001
Sliding part of Cam R and Arm R

2.4 LOADING MECHA ASSY

Note :

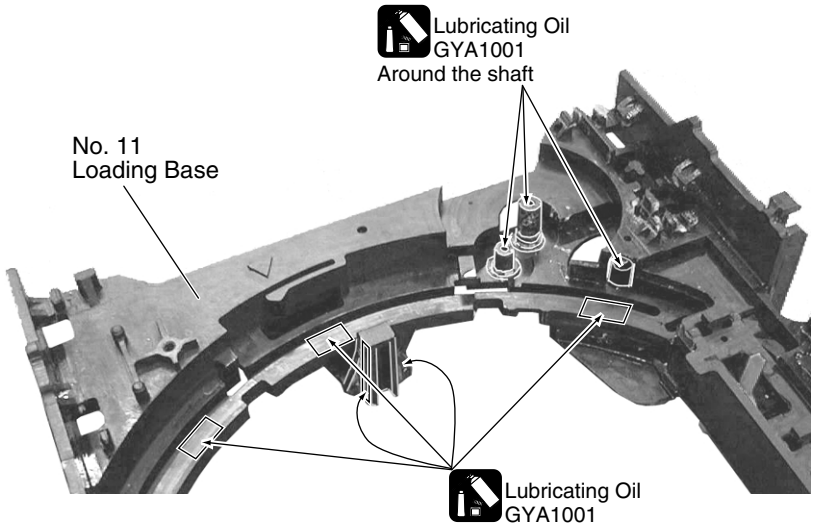
Refer to
" ■ Application of Lubricant".

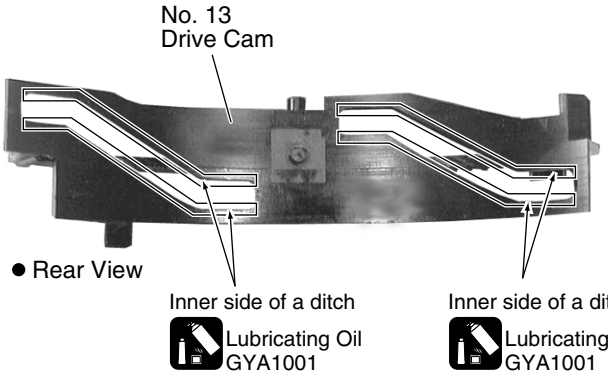


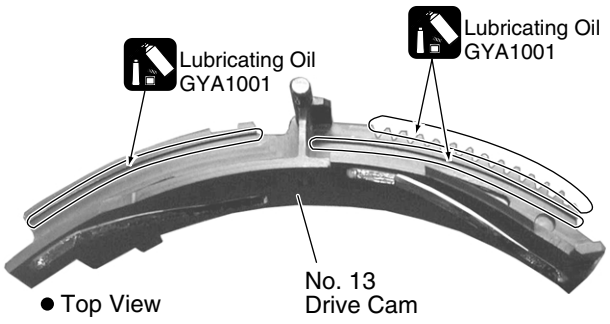
LOADING MECHA ASSY parts List

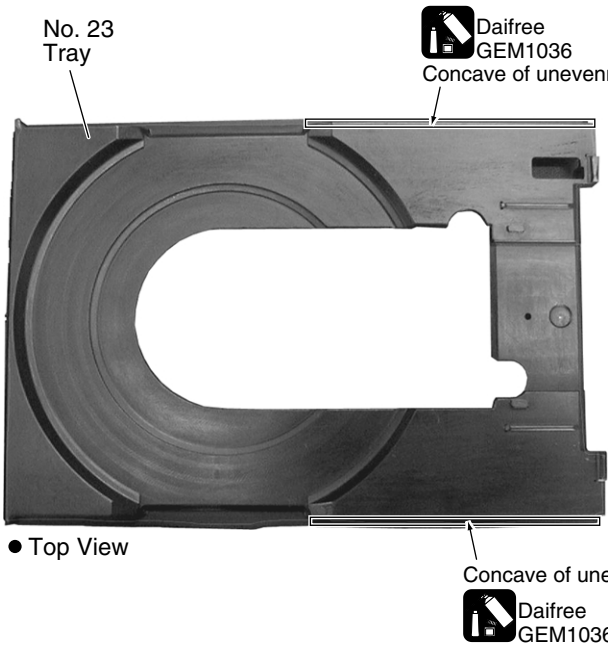
Mark	No.	Description	Part No.
NSP	1	LOAB Assy	VWG2279
	2	Traverse Mechanism Assy-S	VXX2782
	3	Loading Motor Assy	VXX2505
	4	Motor Pulley	PNW1634
	5	Carriage DC Motor / 0.3W	PXM1027
	6	Flexible Cable (26P)	VDA1864
	7	Connector Assy 2P	VKP2253
	8	Floating Rubber	VEB1327
	9	Belt	VEB1330
	10	Stabilizer	VNE2253
	11	Loading Base	VNL1917
	12	Float Base DVD	VNL1918
	13	Drive Cam	VNL1919
	14	Gear Pulley	VNL1921
	15	Loading Gear	VNL1922
	16	Drive Gear	VNL1923
	17	SW Lever	VNL1925
	18	Clamper Plate	VNE2251
	19	Bridge	VNE2252
	20	Clamper	VNL1924
	21	Screw	JGZ17P028FMC
	22	Screw	Z39-019
	23	Tray	VNL1920

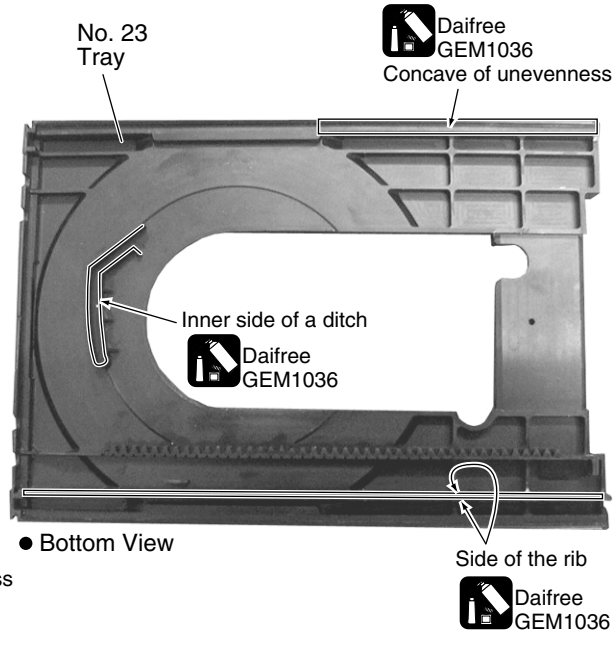
Application of Lubricant



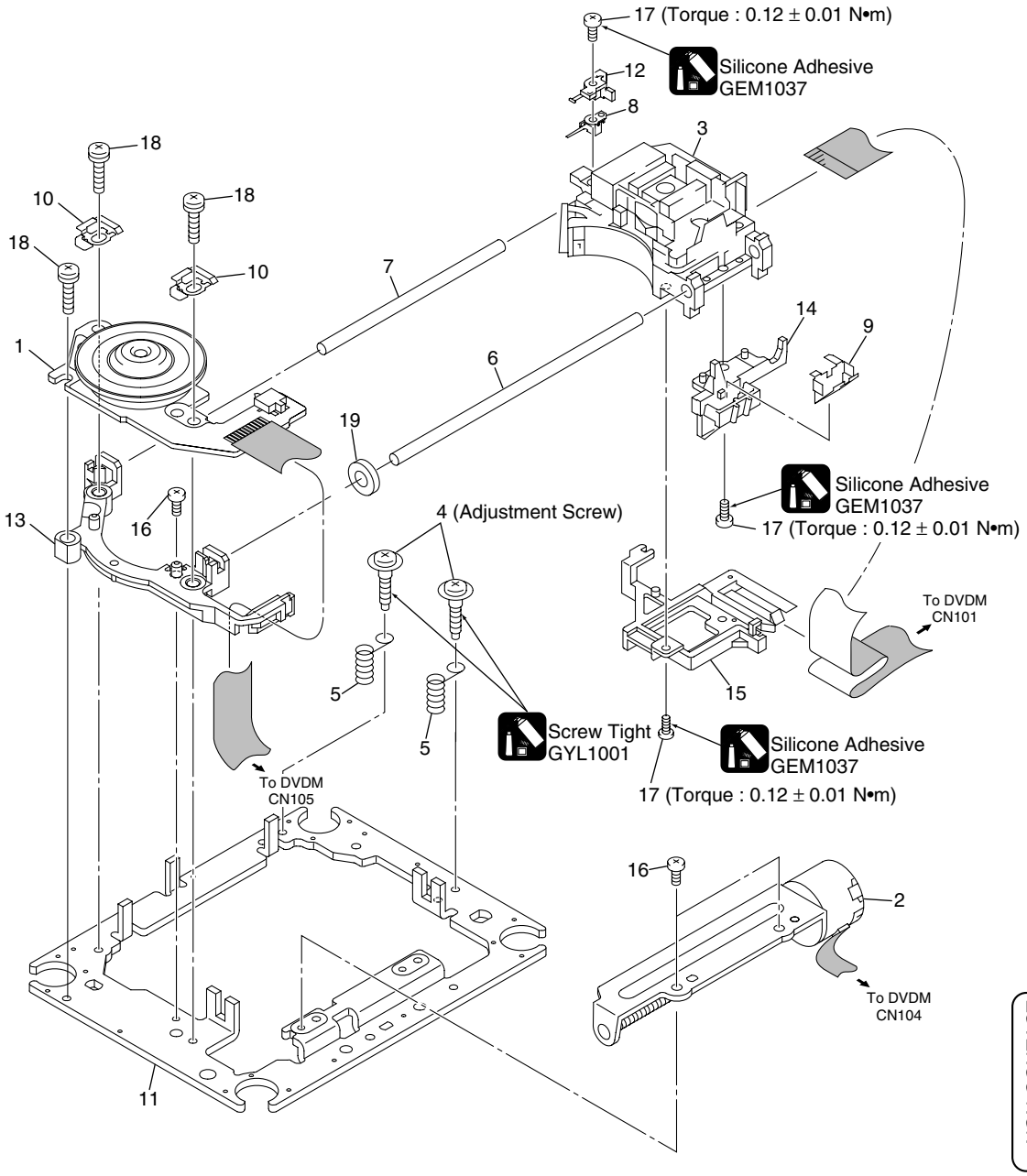


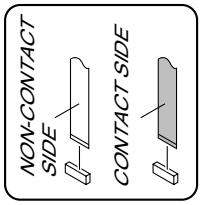






2.5 TRAVERSE MECHANISM ASSY-S

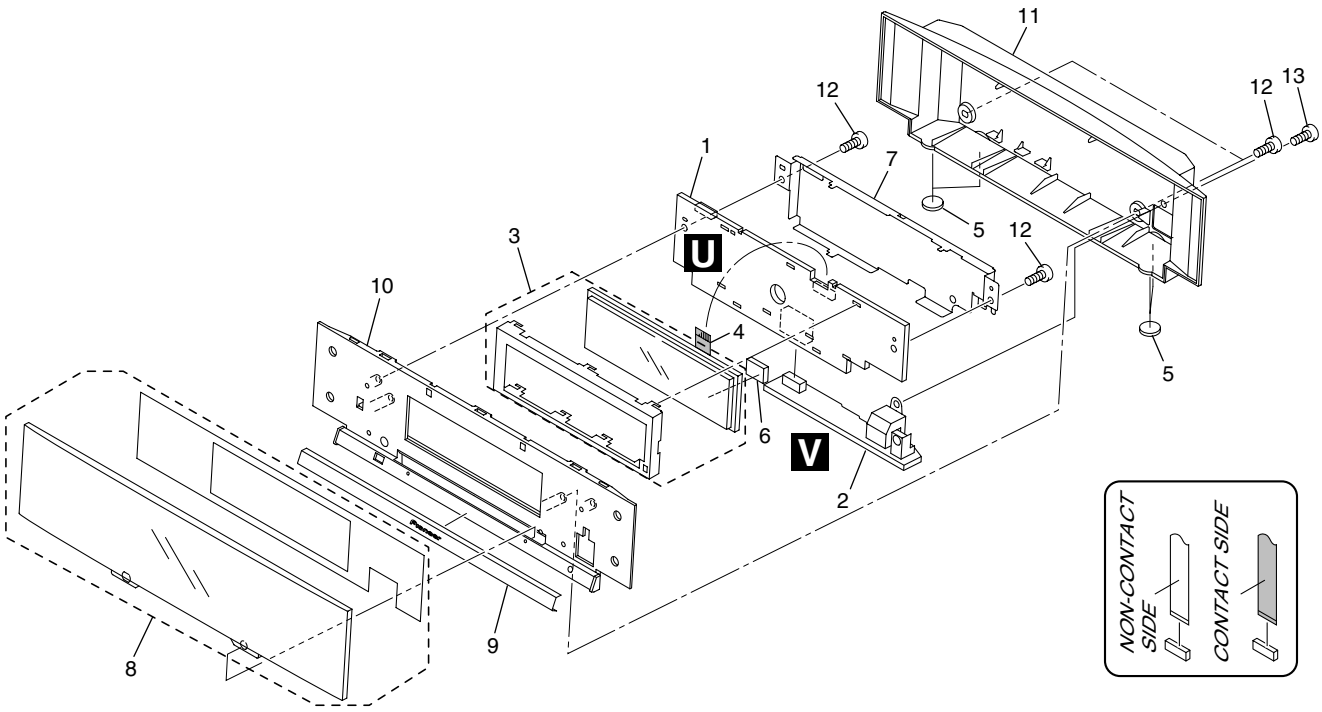




TRAVERSE MECHANISM ASSY-S parts List

Mark	No.	Description	Part No.
	1	Spindle Motor	VXM1088
	2	Stepping Motor	VXM1090
⚠	3	Pickup Assy-S	OXX8003
	4	Skew Screw	VBA1080
	5	Skew Spring	VBH1335
	6	Guide Bar	VLL1514
	7	Sub Guide Bar	VLL1515
	8	Hold Spring	VNC1017
	9	Joint Spring	VNC1019
	10	Support Spring	VNC1020
NSP	11	Mechanism Chassis	VNE2248
	12	Slider	VNL1811
	13	Spacer	VNL1913
	14	Joint	VNL1914
	15	FFC Holder	VNL1915
	16	Screw	BBZ20P050FZK
	17	Tapping Screw	OBA8009
	18	Screw	PMA26P100FMC
	19	Damper Sheet	VEB1335

2.6 DISPLAY UNIT

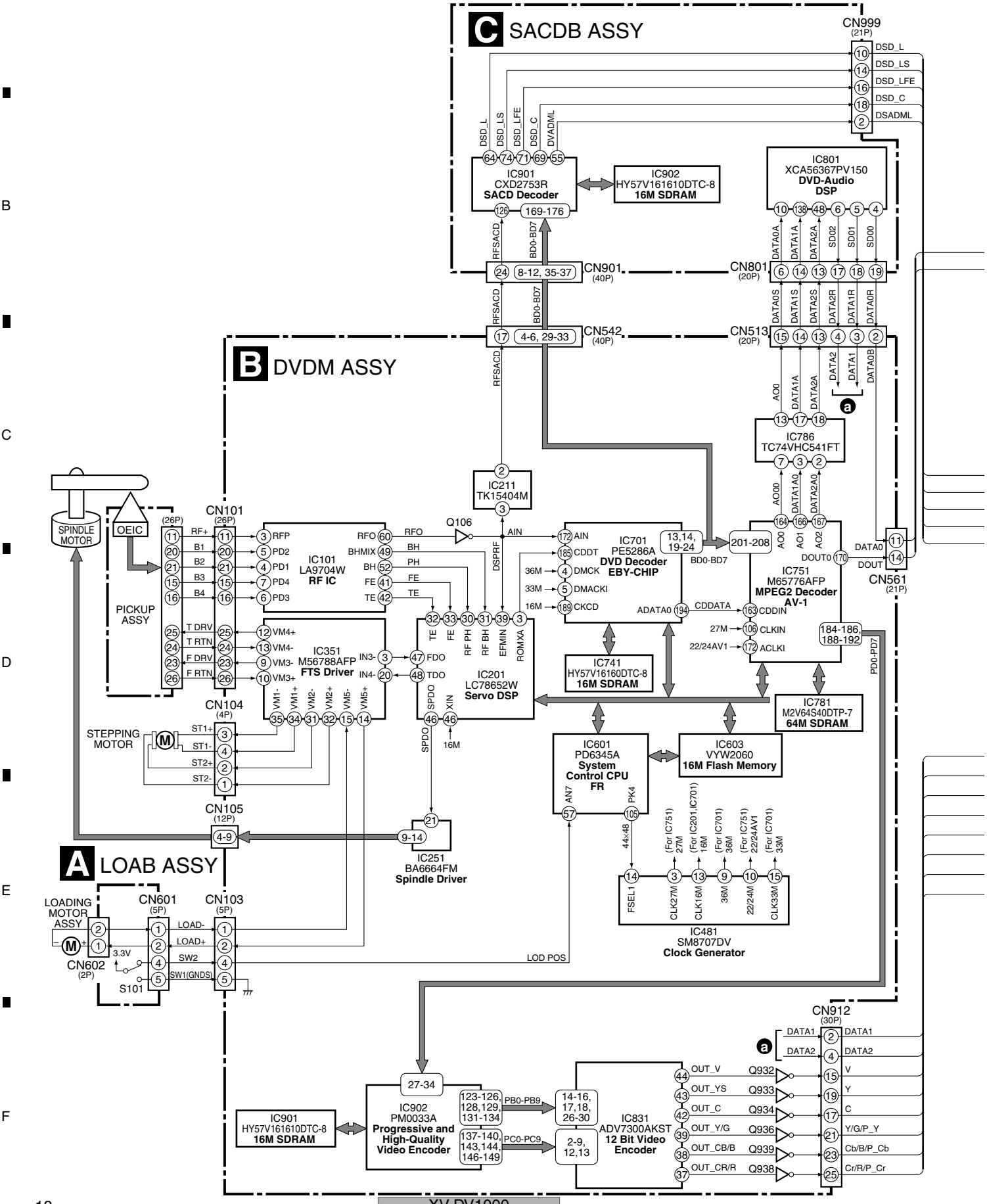


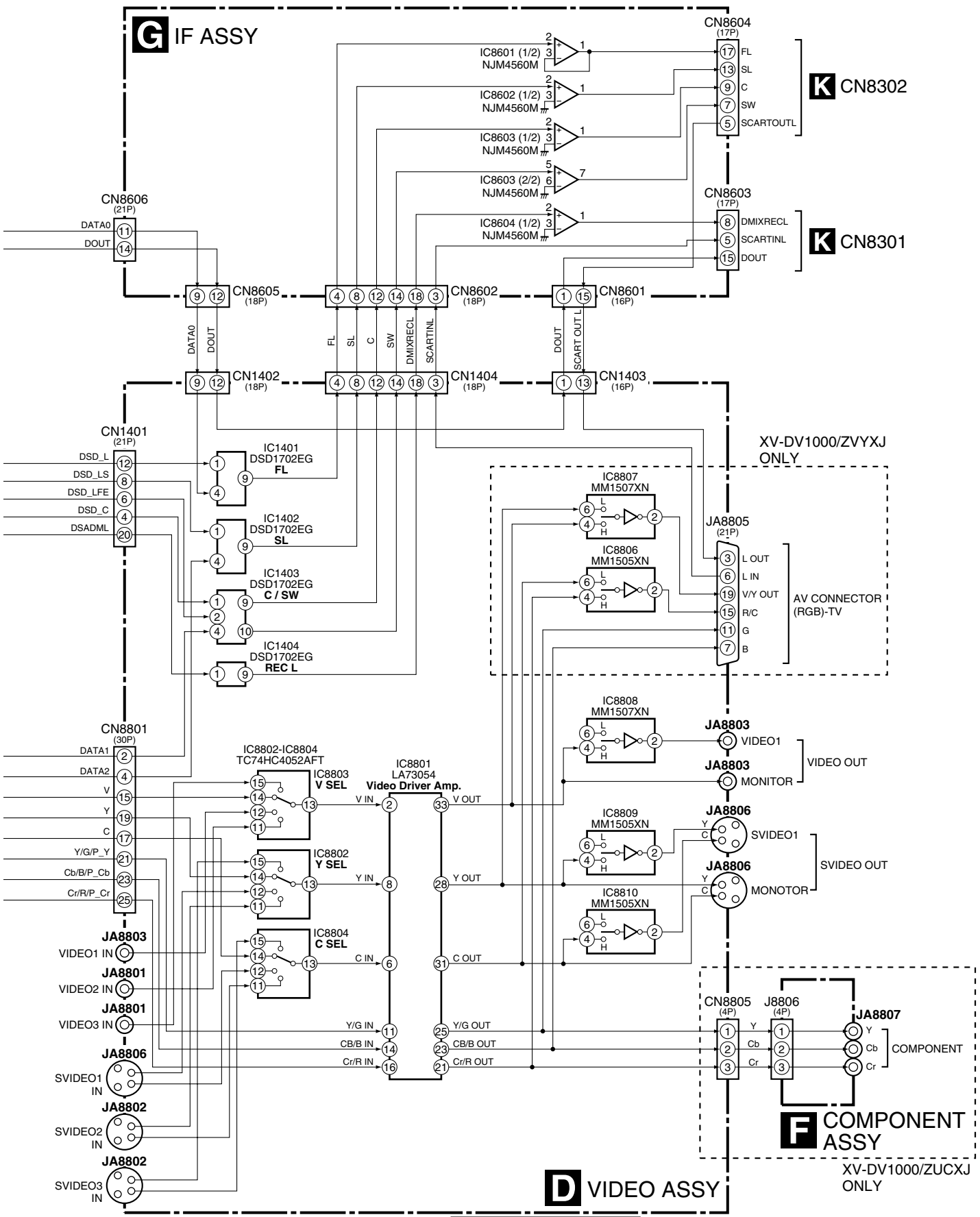
DISPLAY UNIT parts List

Mark	No.	Description	Part No.
	1	OEL CONT Assy	AWU7999
	2	OEL JACK Assy	AWU8000
	3	OEL Module	MXK8044
	4	18P FFC / 30V	ADD7392
	5	Leg	AEB7090
	6	OEL Cushion	AEB7273
	7	Shield Cover	ANG7438
	8	Window	AAK8045
	9	Disp AL	AAP7089
	10	Disp Panel	AMB7828
	11	Disp Cover	AMC7049
	12	Screw	BPZ30P080FZK
	13	Screw	PSC30P080FNI

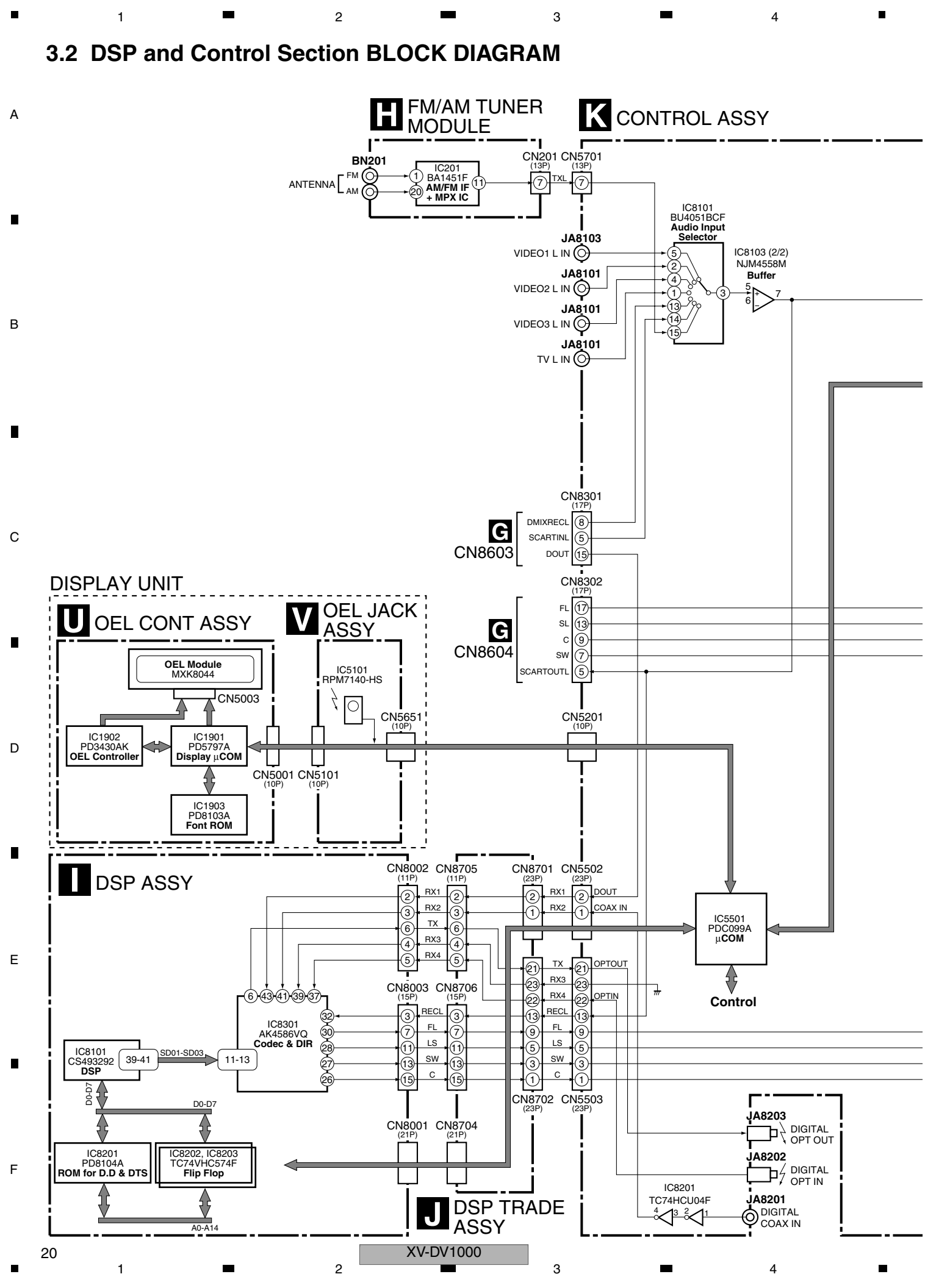
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

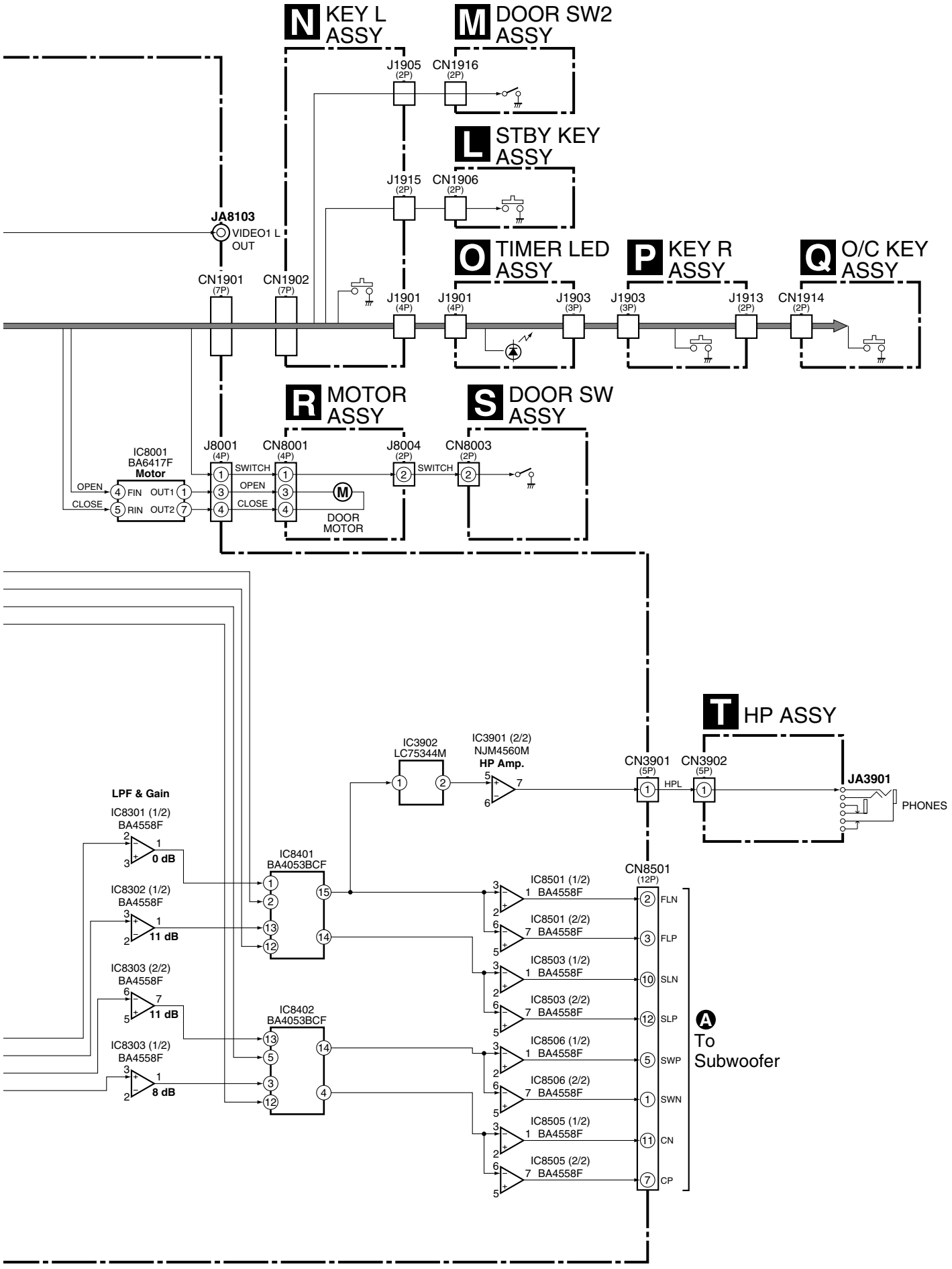
3.1 DVD and Video Section BLOCK DIAGRAM



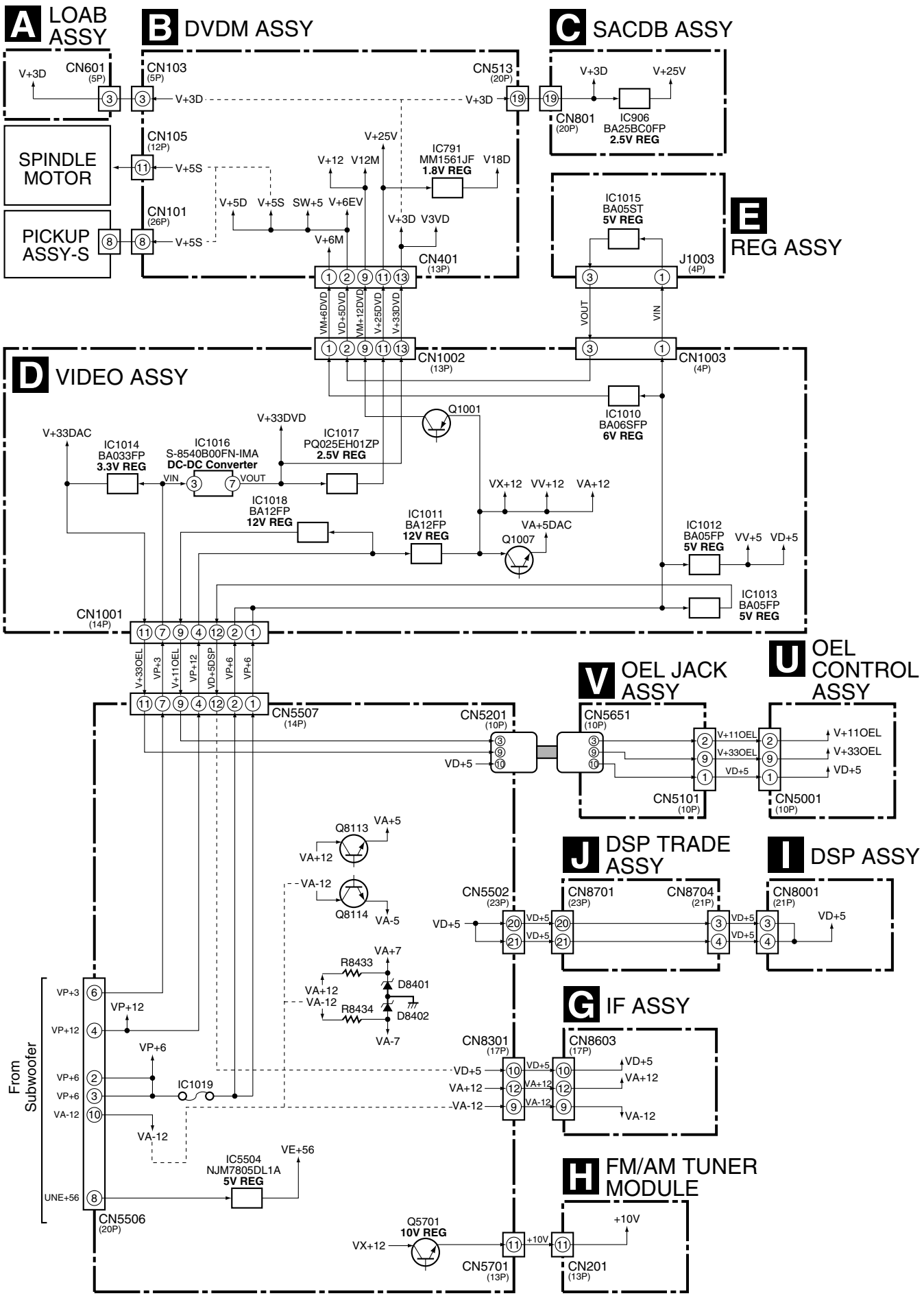

G IF ASSY
CN8604 (17P)
IC8601 (1/2) NJM4560M
IC8602 (1/2) NJM4560M
IC8603 (1/2) NJM4560M
IC8603 (2/2) NJM4560M
IC8604 (1/2) NJM4560M
FL
SL
C
SW
SCARTOUTL
K CN8302
CN8603 (17P)
DMIXRECL
SCARTINL
DOUT
K CN8301
CN8606 (21P)
DATA0
DOUT
CN8605 (18P)
CN8602 (18P)
CN8601 (16P)
CN1402 (18P)
CN1404 (18P)
CN1403 (16P)
CN1401 (21P)
DSD_L
DSD_LS
DSD_LFE
DSD_C
DSADML
IC1401 DSD1702EG FL
IC1402 DSD1702EG SL
IC1403 DSD1702EG C / SW
IC1404 DSD1702EG REC L
XV-DV1000/ZVYXJ ONLY
IC8807 MM1507XN
IC8806 MM1505XN
JA8805 (21P)
L OUT
L IN
V/Y OUT
R/C
G
B
AV CONNECTOR (RGB)-TV
CN8801 (30P)
DATA1
DATA2
V
Y
C
Y/G/P_Y
Cb/B/P_Cb
Cr/R/P_Cr
IC8802-IC8804 TC74HC4052AFT
IC8803 V SEL
IC8802 Y SEL
IC8804 C SEL
IC8801 LA73054 Video Driver Amp.
V IN
Y IN
C IN
Y/G IN
CB/B IN
Cr/R IN
V OUT
Y OUT
C OUT
Y/G OUT
CB/B OUT
Cr/R OUT
IC8808 MM1507XN
IC8809 MM1505XN
IC8810 MM1505XN
JA8803 VIDEO1
JA8803 MONITOR
VIDEO OUT
JA8806 SVIDEO1
JA8806 MONOTOR
SVIDEO OUT
JA8803 VIDEO1 IN
JA8801 VIDEO2 IN
JA8801 VIDEO3 IN
JA8806 SVIDEO1 IN
JA8802 SVIDEO2 IN
JA8802 SVIDEO3 IN
CN8805 (4P)
J8806 (4P)
JA8807
Y
Cb
Cr
COMPONENT
F COMPONENT ASSY
XV-DV1000/ZUCXJ ONLY
D VIDEO ASSY

3.2 DSP and Control Section BLOCK DIAGRAM




N KEY L ASSY
M DOOR SW2 ASSY
J1905 (2P)
CN1916 (2P)
L STBY KEY ASSY
J1915 (2P)
CN1906 (2P)
JA8103
VIDEO1 L OUT
O TIMER LED ASSY
P KEY R ASSY
Q O/C KEY ASSY
CN1901 (7P)
CN1902 (7P)
J1901 (4P)
J1901 (4P)
J1903 (3P)
J1903 (3P)
J1913 (2P)
CN1914 (2P)
R MOTOR ASSY
S DOOR SW ASSY
IC8001
BA6417F
Motor
J8001 (4P)
CN8001 (4P)
J8004 (2P)
CN8003 (2P)
SWITCH
OPEN
CLOSE
FIN
RIN
OUT1
OUT2
DOOR MOTOR
T HP ASSY
IC3902
LC75344M
IC3901 (2/2)
NJM4560M
HP Amp.
CN3901 (5P)
CN3902 (5P)
HPL
JA3901
PHONES
LPF & Gain
IC8301 (1/2)
BA4558F
0 dB
IC8302 (1/2)
BA4558F
11 dB
IC8303 (2/2)
BA4558F
11 dB
IC8303 (1/2)
BA4558F
8 dB
IC8401
BA4053BCF
IC8402
BA4053BCF
IC8501 (1/2)
BA4558F
IC8501 (2/2)
BA4558F
IC8503 (1/2)
BA4558F
IC8503 (2/2)
BA4558F
IC8506 (1/2)
BA4558F
IC8506 (2/2)
BA4558F
IC8505 (1/2)
BA4558F
IC8505 (2/2)
BA4558F
CN8501 (12P)
FLN
FLP
SLN
SLP
SWP
SWN
CN
CP
A To Subwoofer

3.3 Power Supply Section BLOCK DIAGRAM



A

B

C

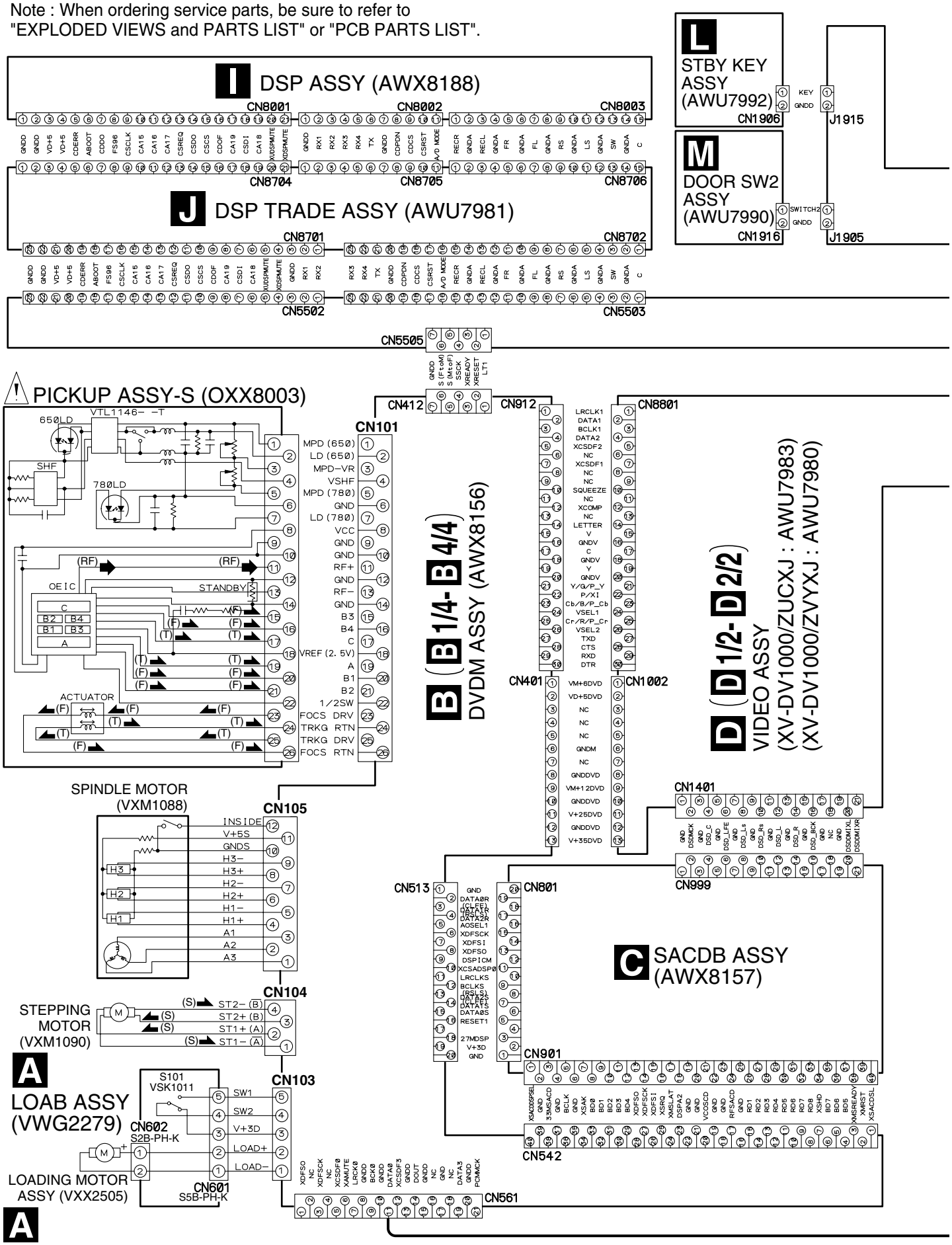
D

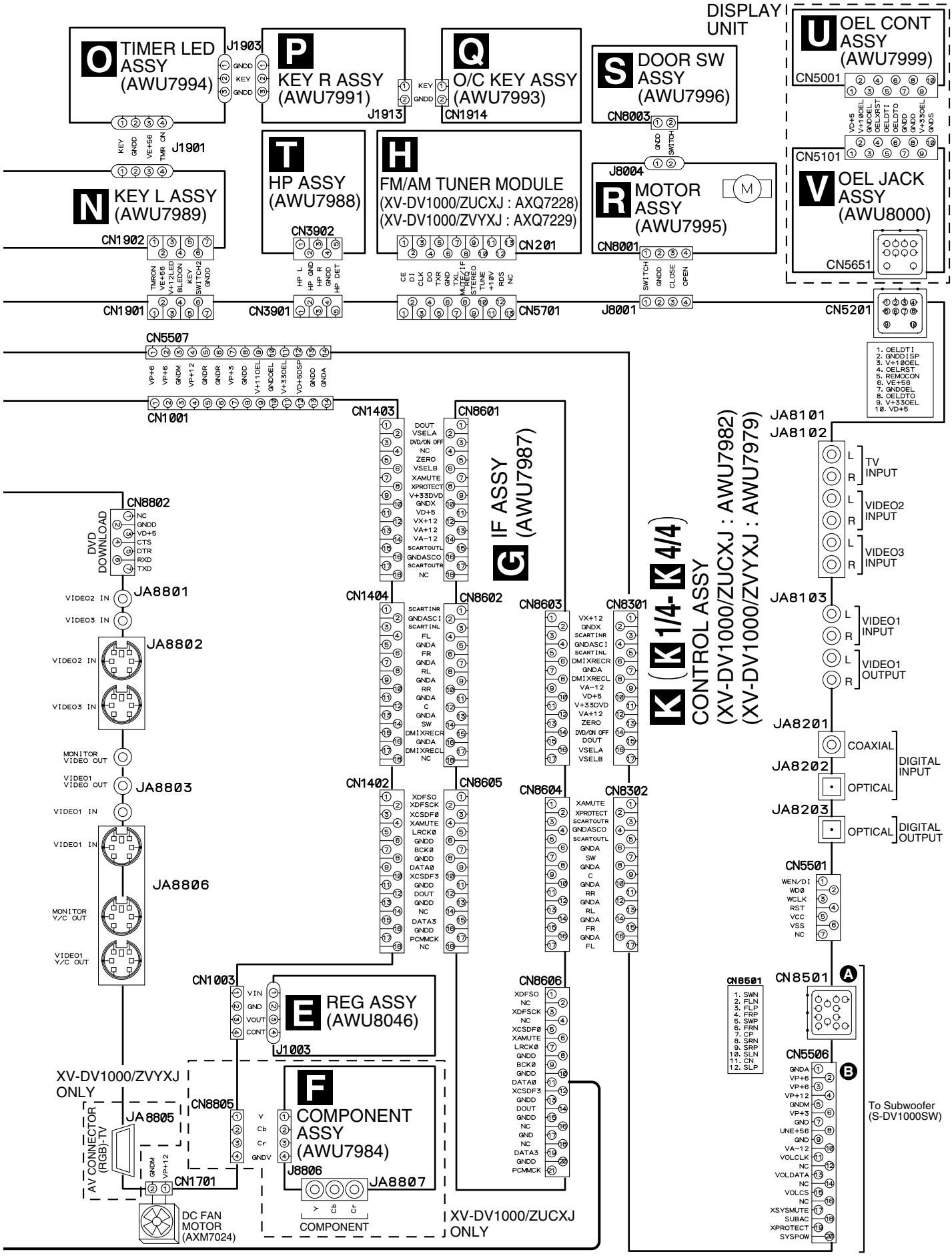
E

F

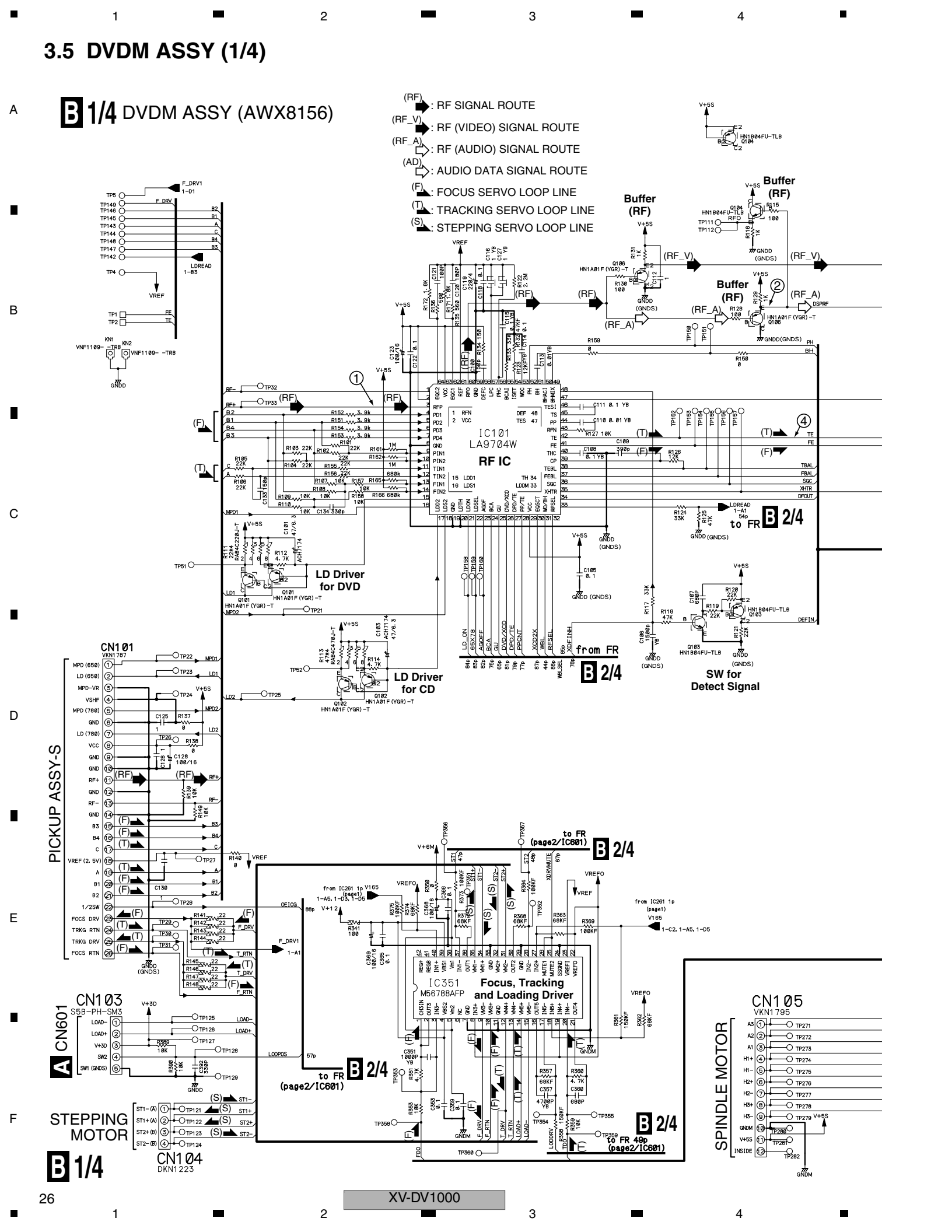
3.4 LOAB ASSY and OVERALL WIRING DIAGRAM

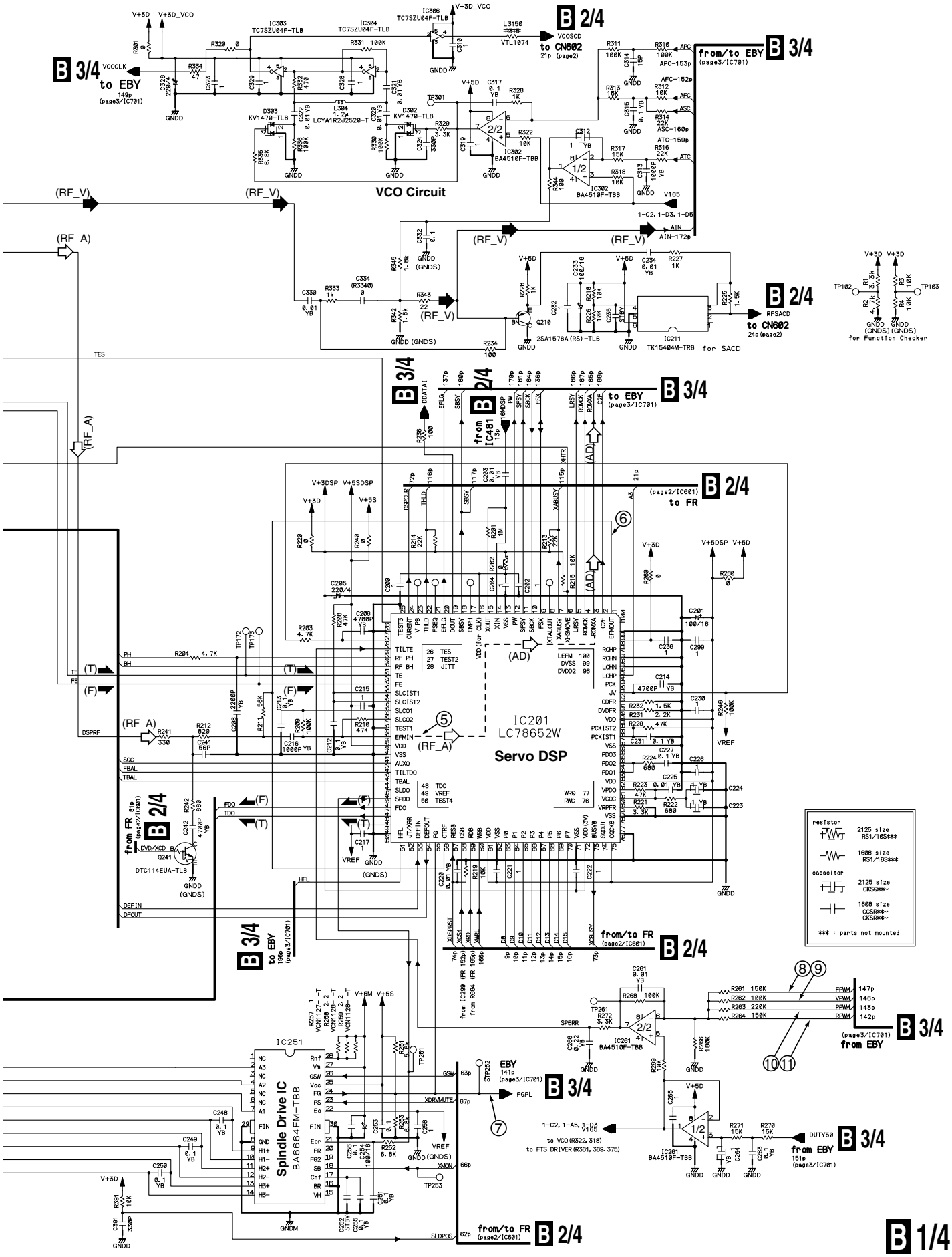
Note : When ordering service parts, be sure to refer to
"EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".




DISPLAY UNIT
O TIMER LED ASSY (AWU7994)
P KEY R ASSY (AWU7991)
Q O/C KEY ASSY (AWU7993)
S DOOR SW ASSY (AWU7996)
U OEL CONT ASSY (AWU7999)
V OEL JACK ASSY (AWU8000)
N KEY L ASSY (AWU7989)
T HP ASSY (AWU7988)
H FM/AM TUNER MODULE (XV-DV1000/ZUCXJ : AXQ7228) (XV-DV1000/ZVYXJ : AXQ7229)
R MOTOR ASSY (AWU7995)
G IF ASSY (AWU7987)
K (K 1/4- K 4/4) CONTROL ASSY (XV-DV1000/ZUCXJ : AWU7982) (XV-DV1000/ZVYXJ : AWU7979)
E REG ASSY (AWU8046)
F COMPONENT ASSY (AWU7984)
XV-DV1000/ZVYXJ ONLY
XV-DV1000/ZUCXJ ONLY
DC FAN MOTOR (AXM7024)
To Subwoofer (S-DV1000SW)
TV INPUT
VIDEO2 INPUT
VIDEO3 INPUT
VIDEO1 INPUT
VIDEO1 OUTPUT
COAXIAL
OPTICAL
OPTICAL
DIGITAL INPUT
DIGITAL OUTPUT
DVD DOWNLOAD
AV CONNECTOR (RGB)-TV
COMPONENT

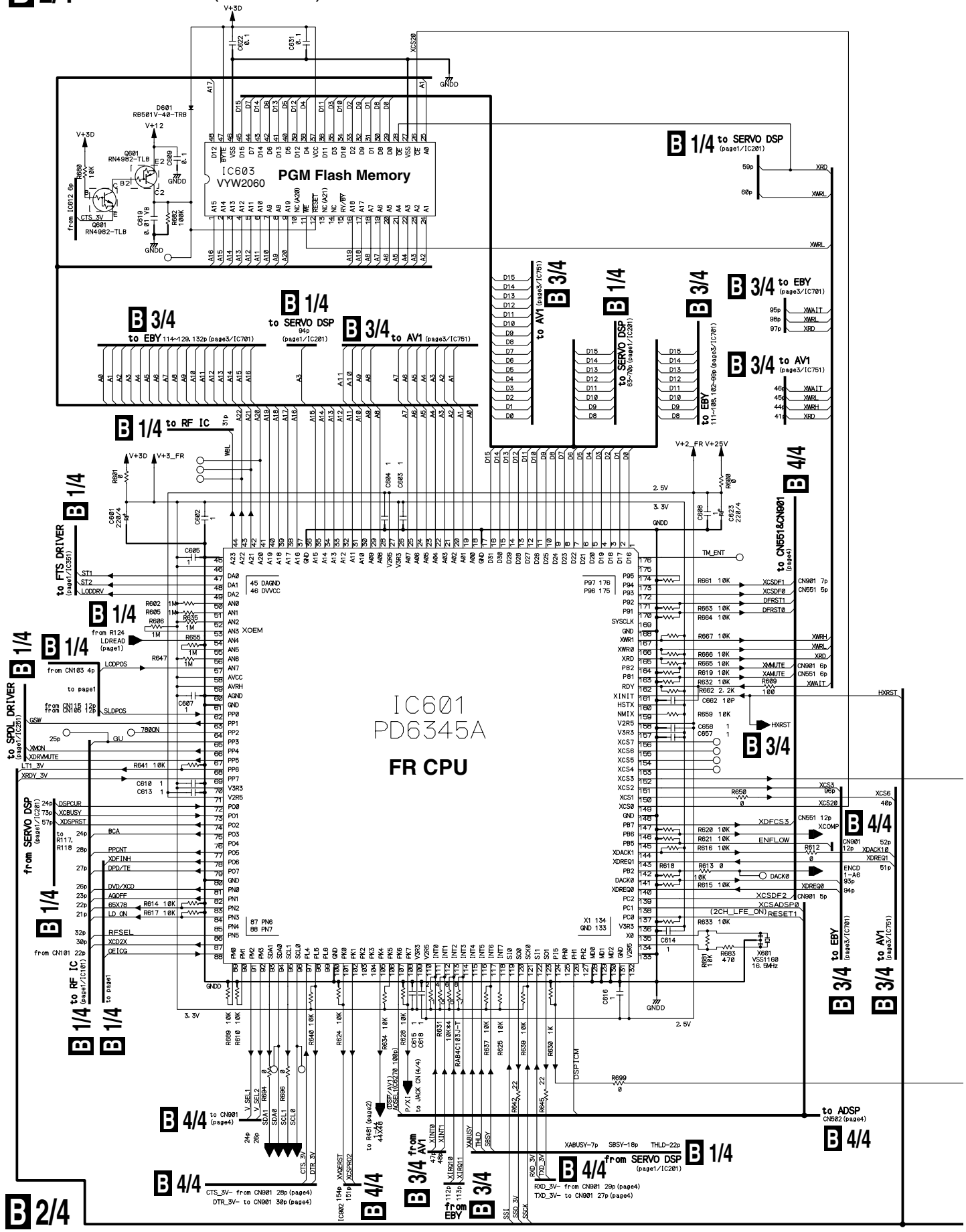
3.5 DVDM ASSY (1/4)




VCO Circuit
Servo DSP
IC201
LC78652W
Spindle Drive IC
BA6664FM-TBB
IC251
B 1/4
XV-DV1000
27

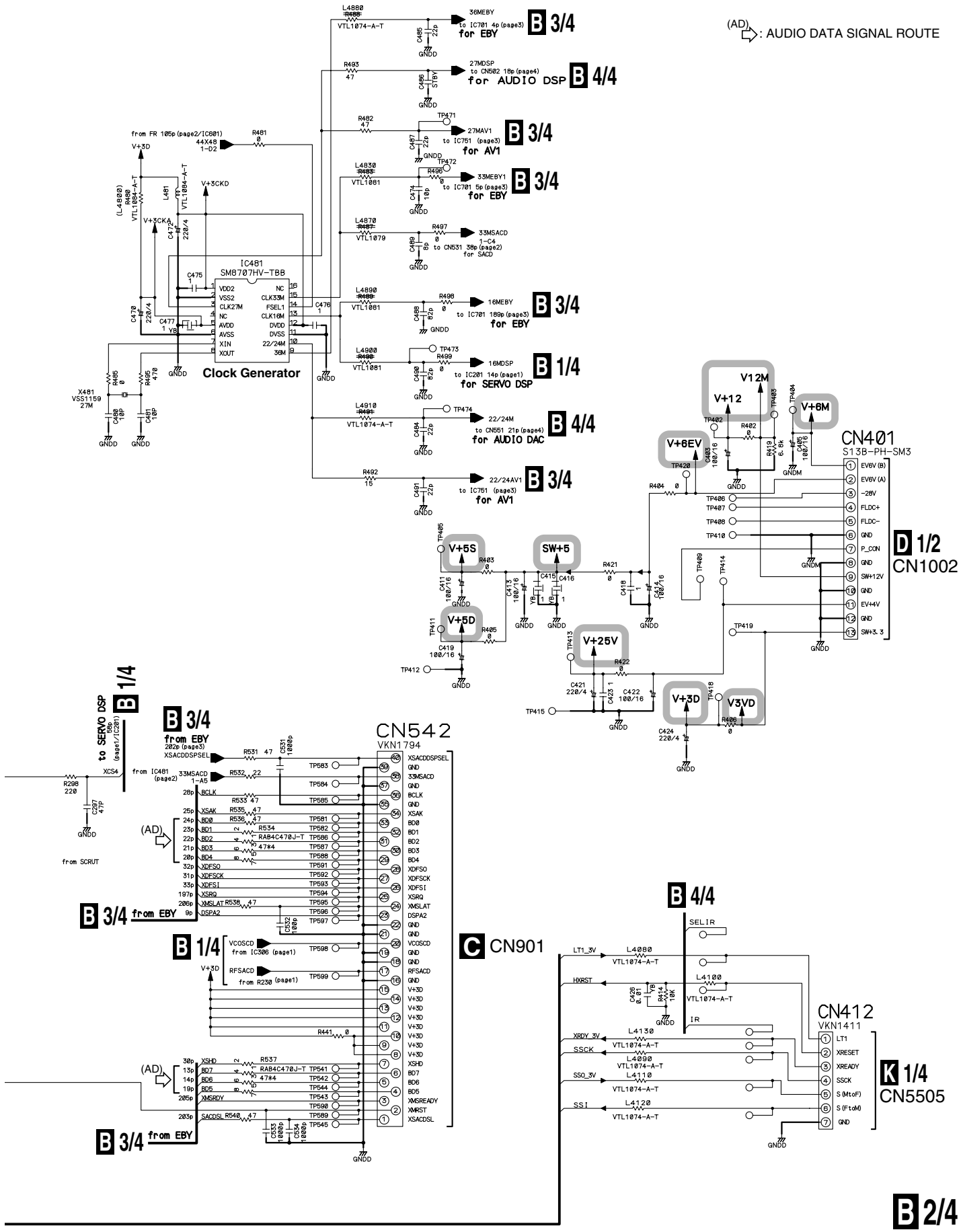
3.6 DVDM ASSY (2/4)

B 2/4 DVDM ASSY (AWX8156)

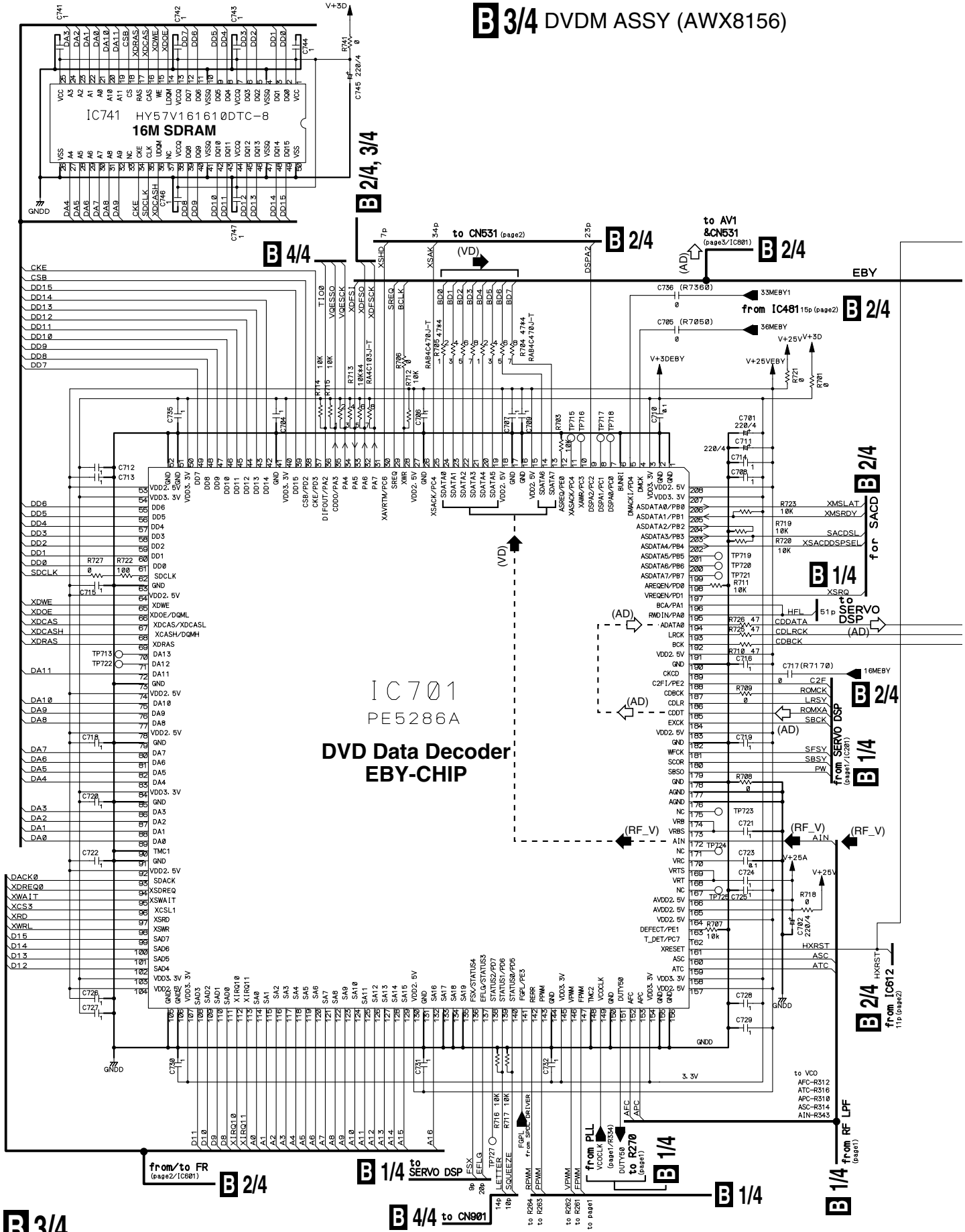

IC603
VYW2060
PGM Flash Memory
IC601
PD6345A
FR CPU
B 1/4 to SERVO DSP (page1/IC201)
B 3/4 to EBY (page3/IC701)
B 3/4 to AV1 (page3/IC751)
B 1/4 to RF IC
B 1/4 to FTS DRIVER (page1/IC351)
B 1/4 from SERVO DSP (page1/IC201)
B 4/4 to CN551&CN901 (page4)
B 4/4 to CN901 (page4)
B 4/4 from SERVO DSP (page1/IC201)
B 3/4 from AV1
B 3/4 from EBY
B 2/4
to ADSP CN502 (page4)
CTS_3V- from CN901 28p (page4)
DTR_3V- to CN901 30p (page4)
RXD_3V- from CN901 29p (page4)
TXD_3V- to CN901 27p (page4)

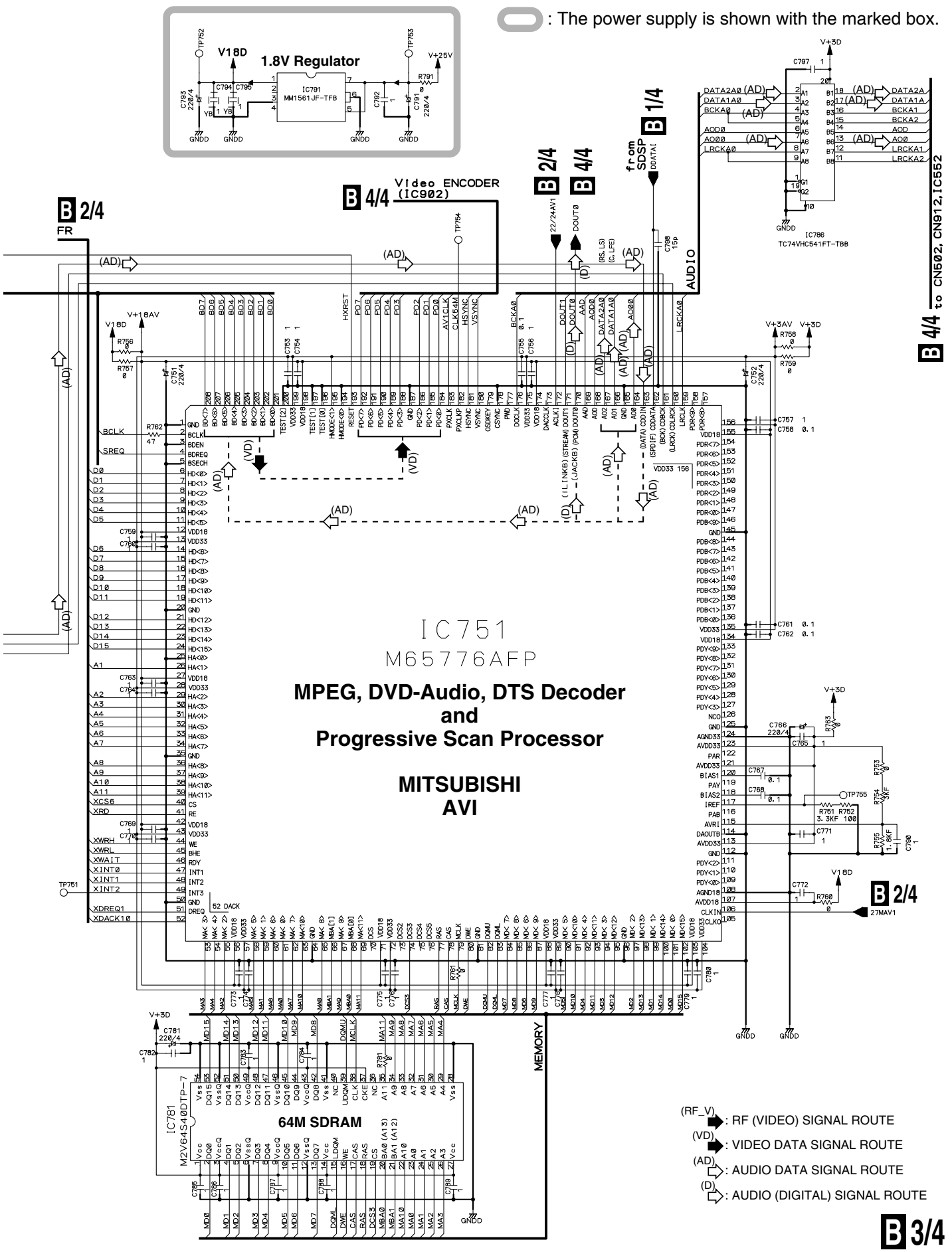
: The power supply is shown with the marked box.

(AD): AUDIO DATA SIGNAL ROUTE

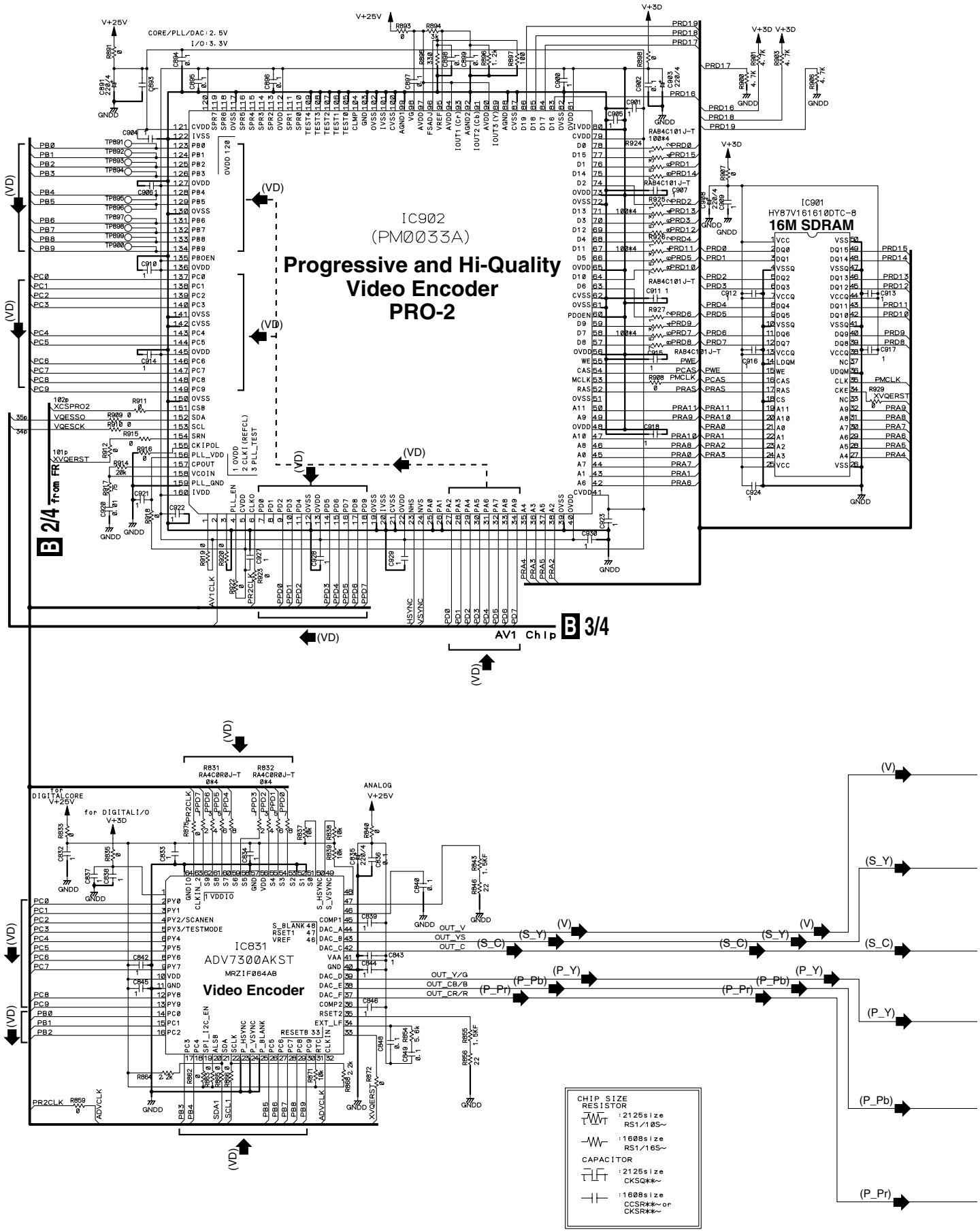


3.7 DVDM ASSY (3/4)



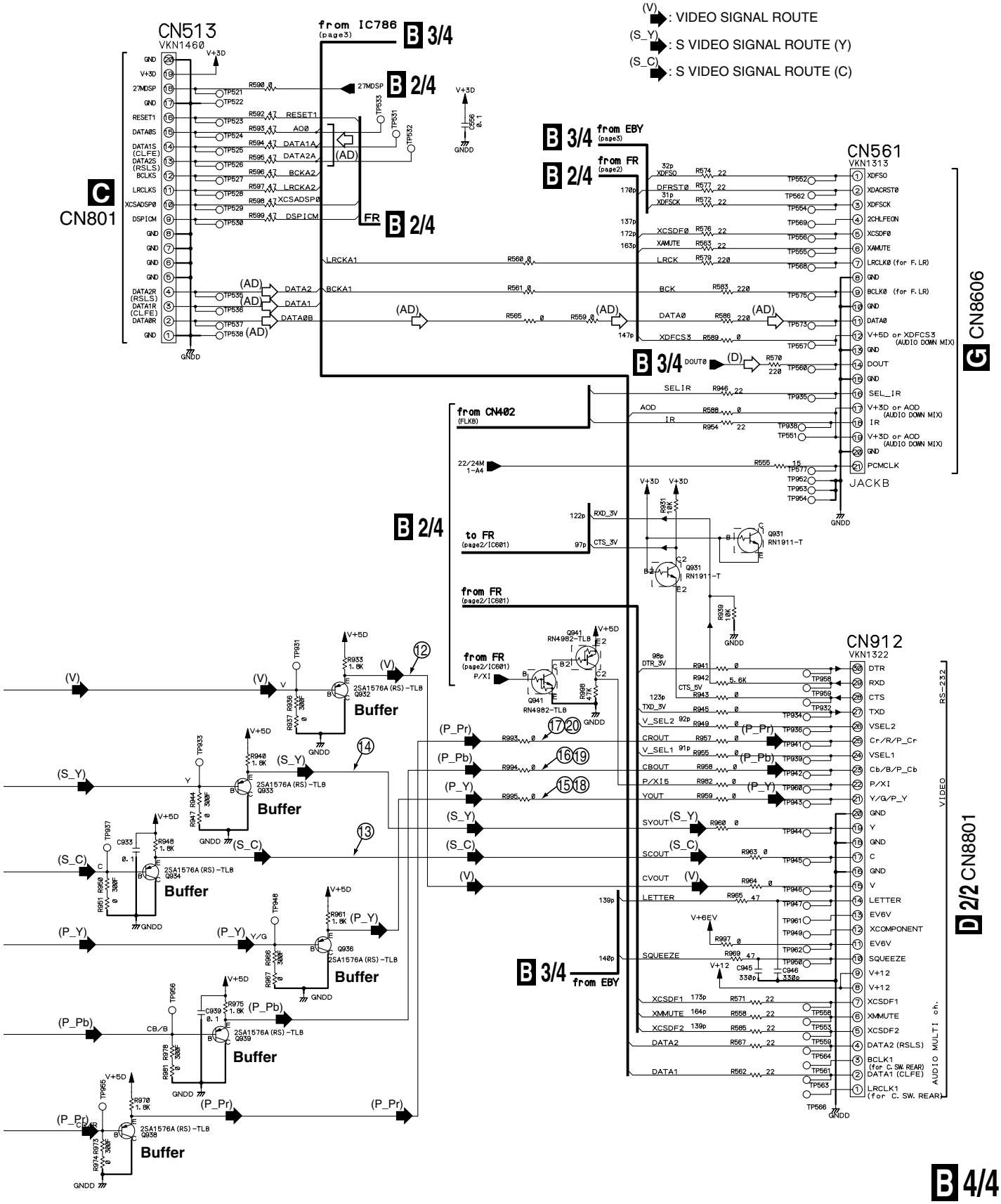

: The power supply is shown with the marked box.
1.8V Regulator
IC791
MM1561JF-TFB
V18D
V+25V
IC751
M65776AFP
MPEG, DVD-Audio, DTS Decoder
and
Progressive Scan Processor
MITSUBISHI
AVI
Video ENCODER
(IC902)
IC786
TC74VHC541FT-TBB
AUDIO
to CN502, CN912, IC552
from SDSP
IC781
M2V64S40DTP-7
64M SDRAM
MEMORY
(RF_V): RF (VIDEO) SIGNAL ROUTE
(VD): VIDEO DATA SIGNAL ROUTE
(AD): AUDIO DATA SIGNAL ROUTE
(D): AUDIO (DIGITAL) SIGNAL ROUTE

3.8 DVDM ASSY (4/4)



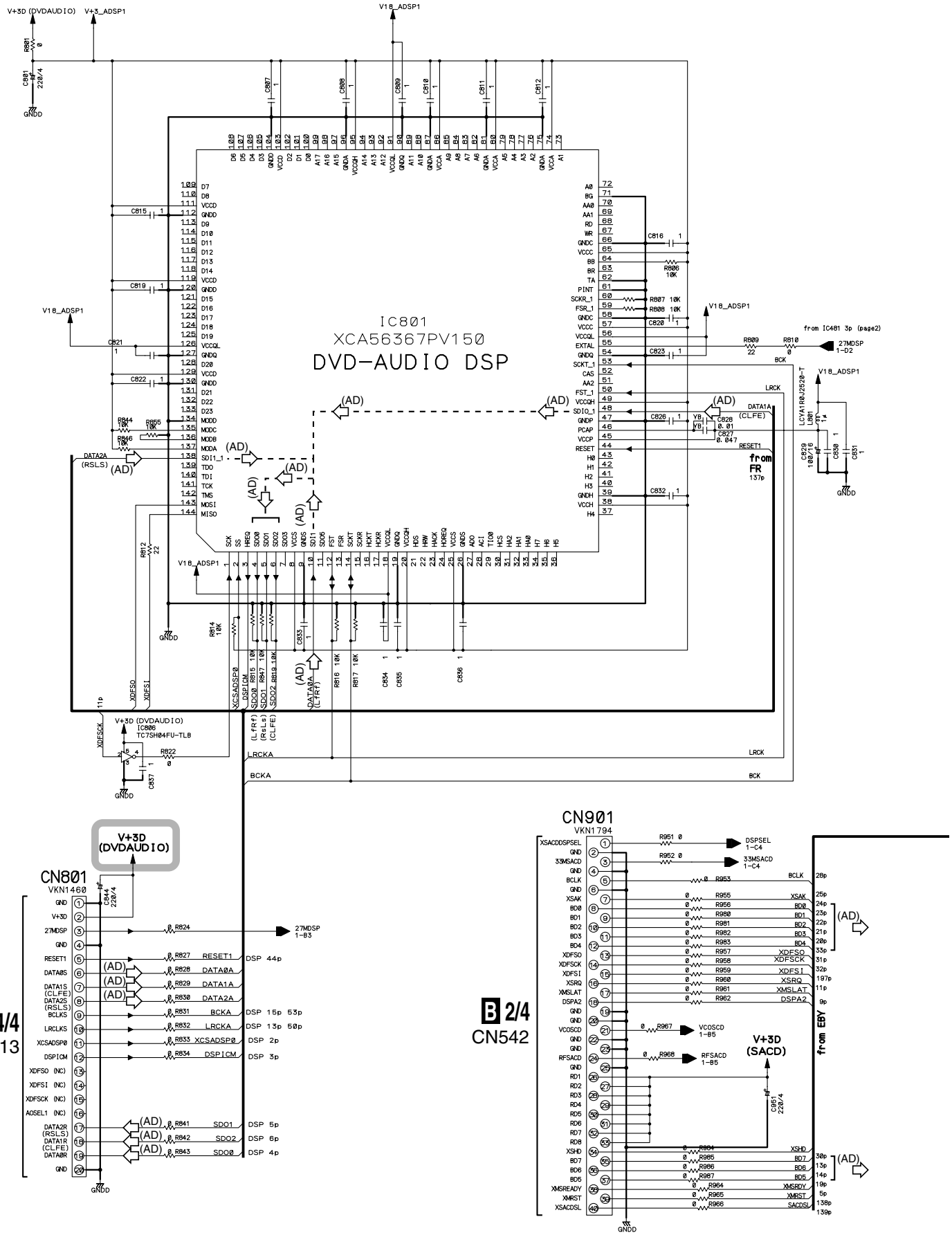
(AD): AUDIO DATA SIGNAL ROUTE
(D): AUDIO (DIGITAL) SIGNAL ROUTE
(VD): VIDEO DATA SIGNAL ROUTE
(P_Y): PROGRESSIVE SCAN VIDEO SIGNAL ROUTE (Y)
(P_Pb): PROGRESSIVE SCAN VIDEO SIGNAL ROUTE (Pb)
(P_Pr): PROGRESSIVE SCAN VIDEO SIGNAL ROUTE (Pr)
(V): VIDEO SIGNAL ROUTE
(S_Y): S VIDEO SIGNAL ROUTE (Y)
(S_C): S VIDEO SIGNAL ROUTE (C)

B 4/4 DVDM ASSY (AWX8156)



3.9 SACDB ASSY

C SACDB ASSY (AWX8157)



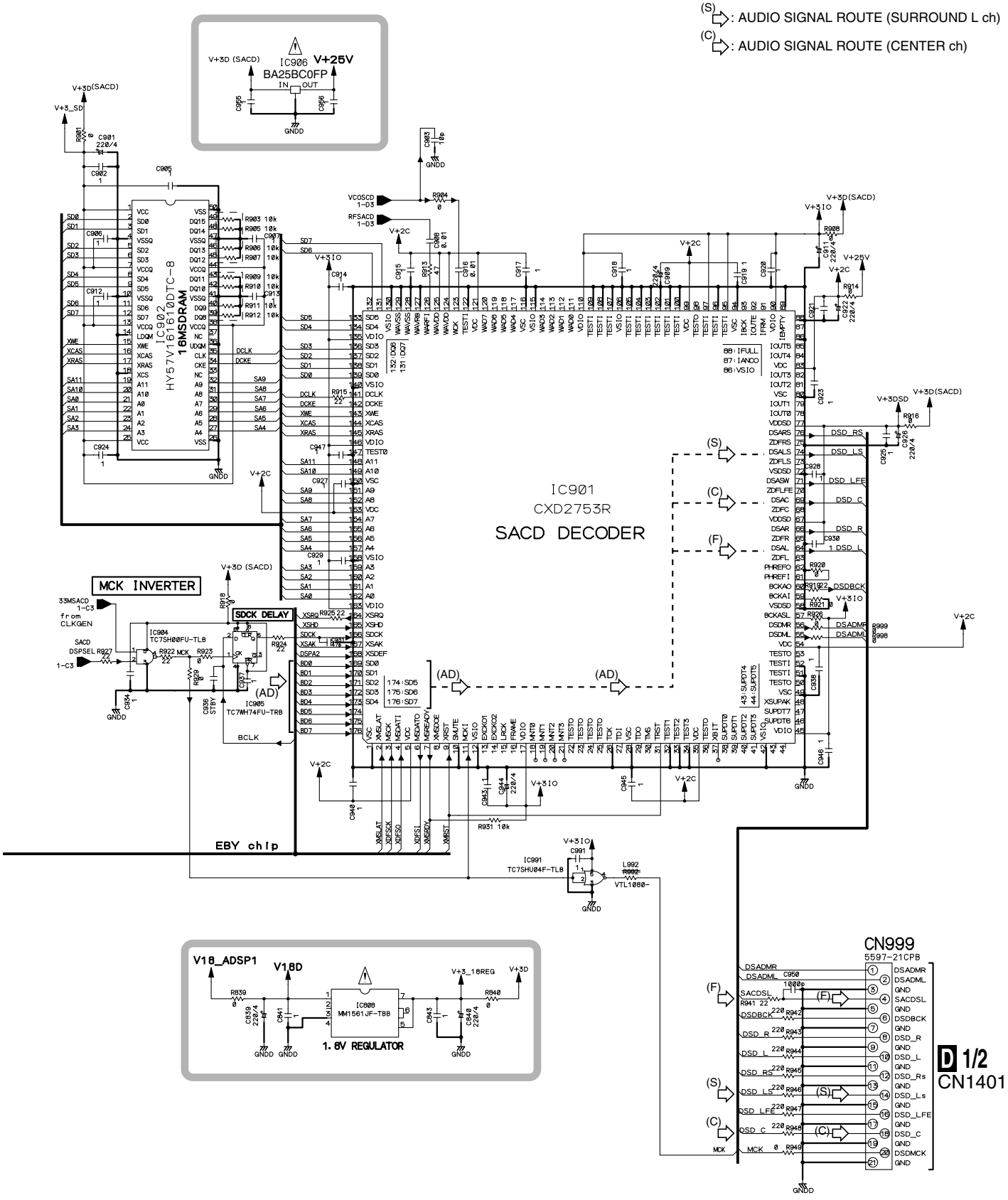
: The power supply is shown with the marked box.

(AD): AUDIO DATA SIGNAL ROUTE

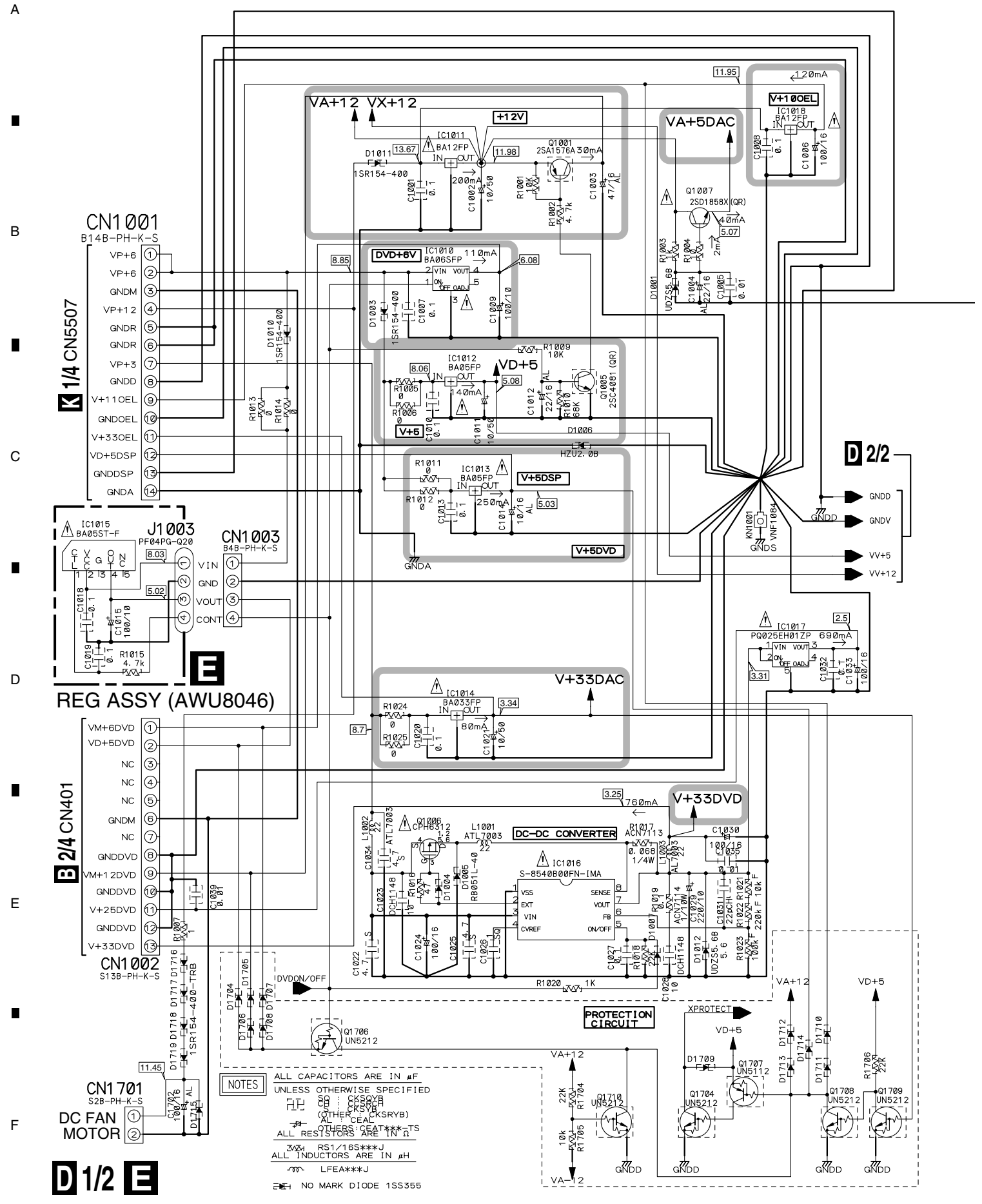
(F): AUDIO SIGNAL ROUTE (FRONT L ch)

(S): AUDIO SIGNAL ROUTE (SURROUND L ch)

(C): AUDIO SIGNAL ROUTE (CENTER ch)



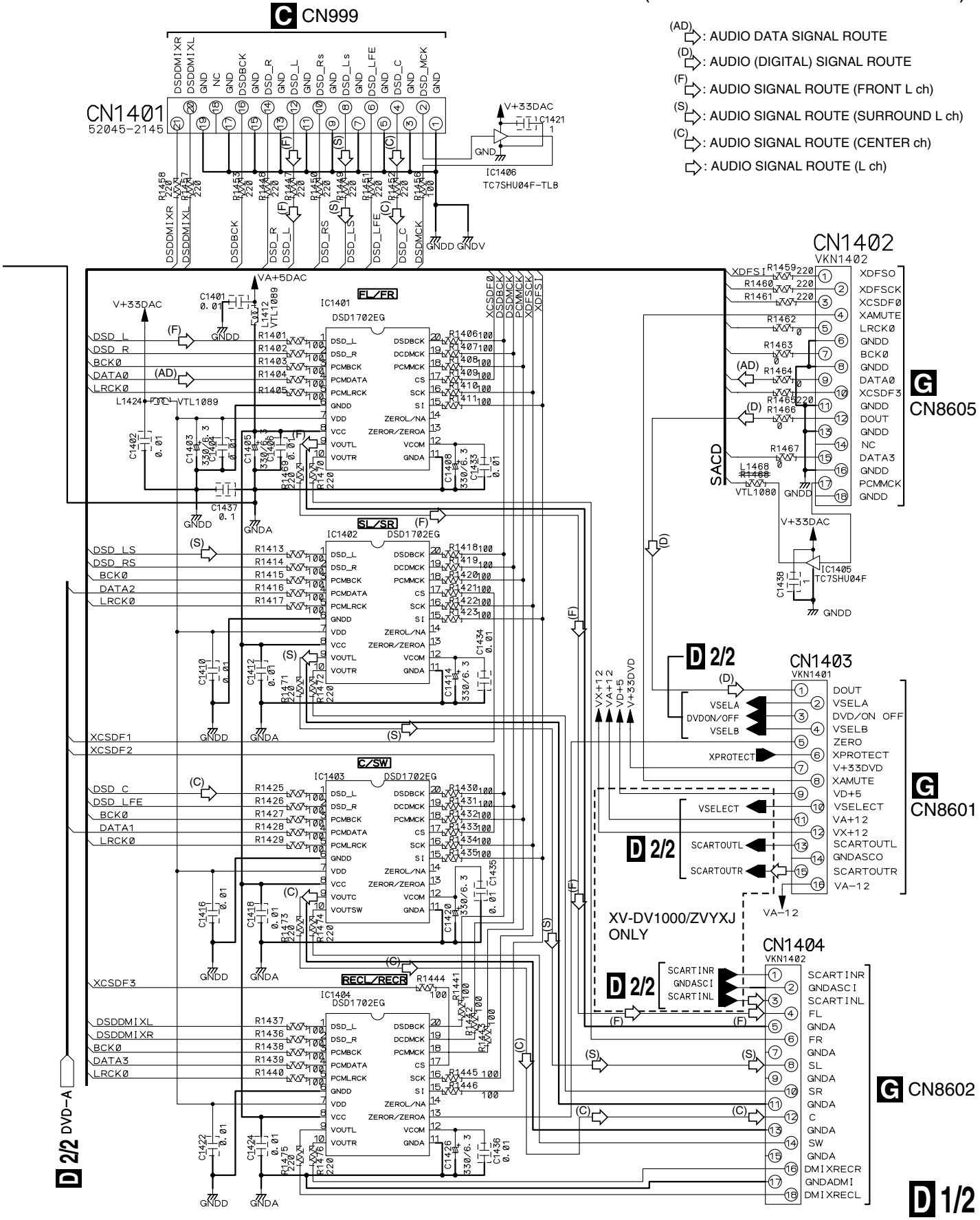
3.10 VIDEO (1/2) and REG ASSYS



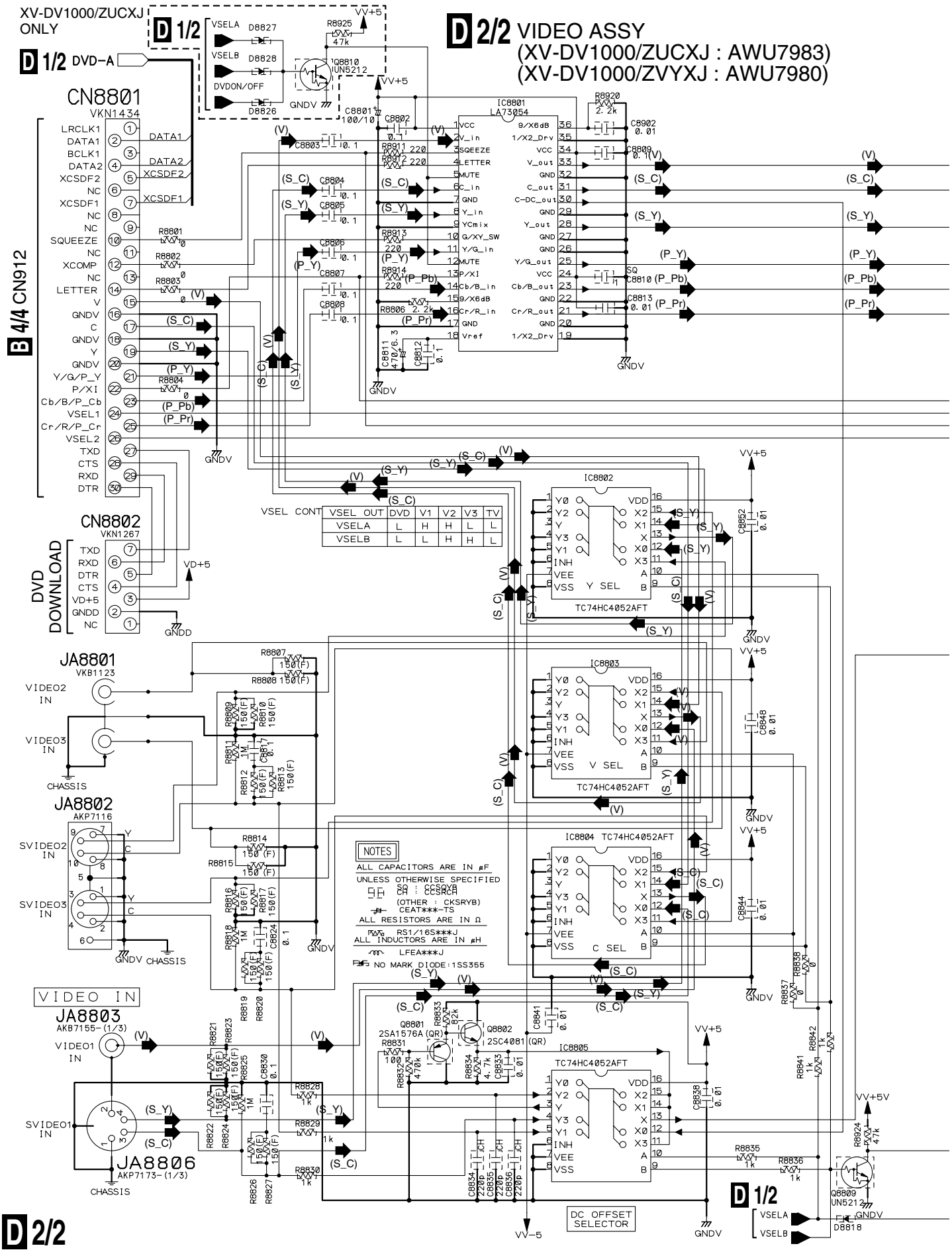
: The power supply is shown with the marked box.

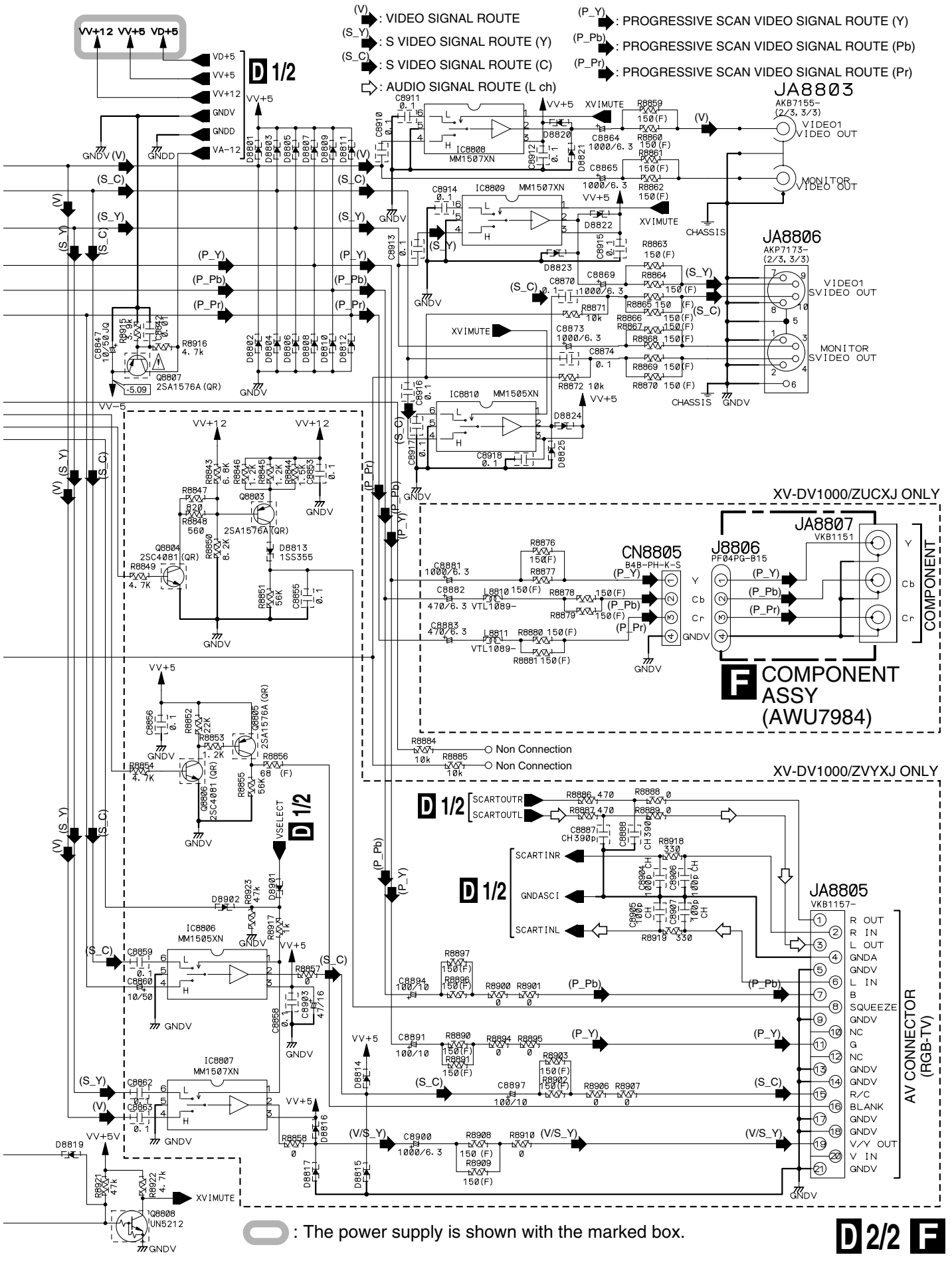
D 1/2 VIDEO ASSY
(XV-DV1000/ZUCXJ : AWU7983)
(XV-DV1000/ZVYXJ : AWU7980)

(AD): AUDIO DATA SIGNAL ROUTE
(D): AUDIO (DIGITAL) SIGNAL ROUTE
(F): AUDIO SIGNAL ROUTE (FRONT L ch)
(S): AUDIO SIGNAL ROUTE (SURROUND L ch)
(C): AUDIO SIGNAL ROUTE (CENTER ch)
: AUDIO SIGNAL ROUTE (L ch)

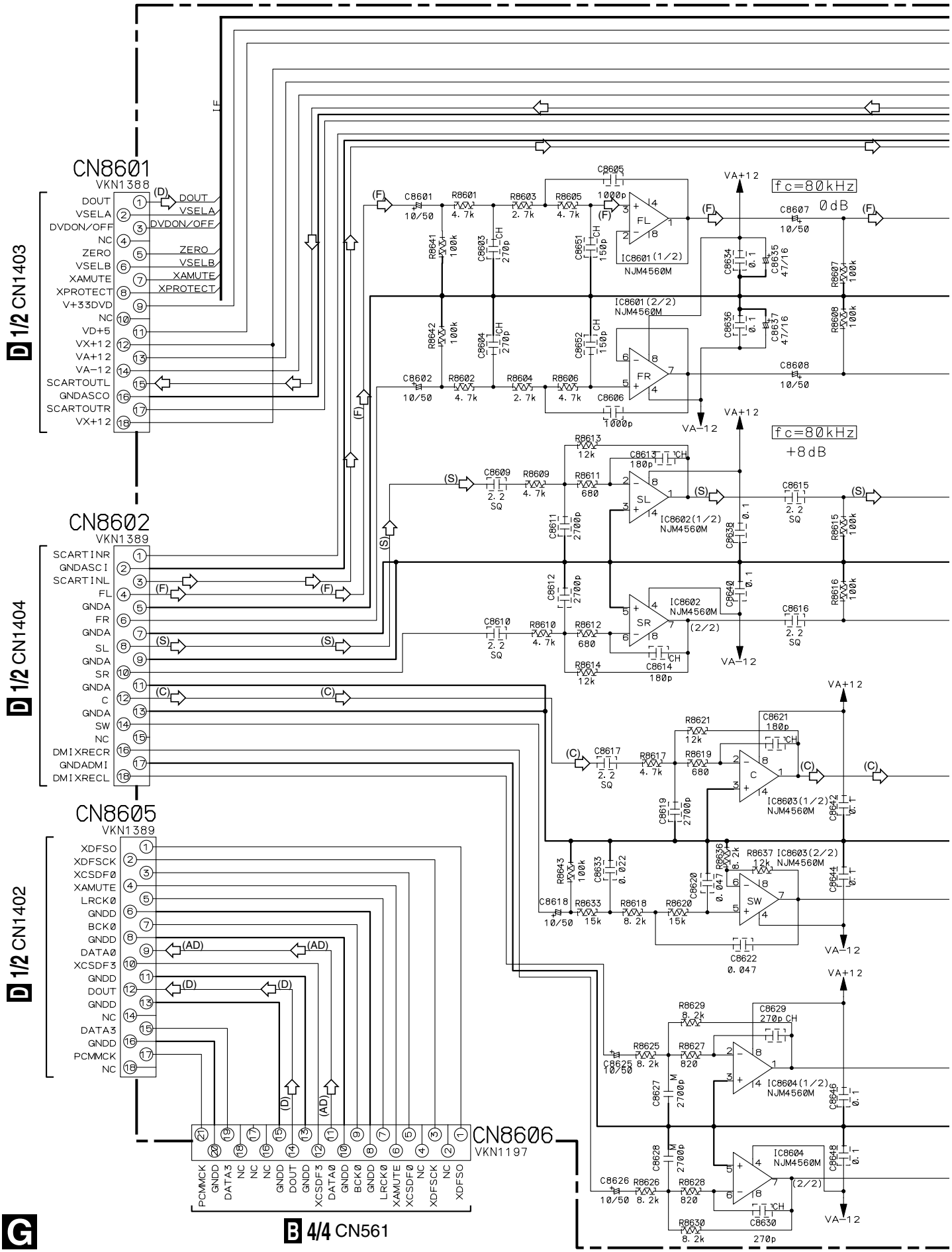


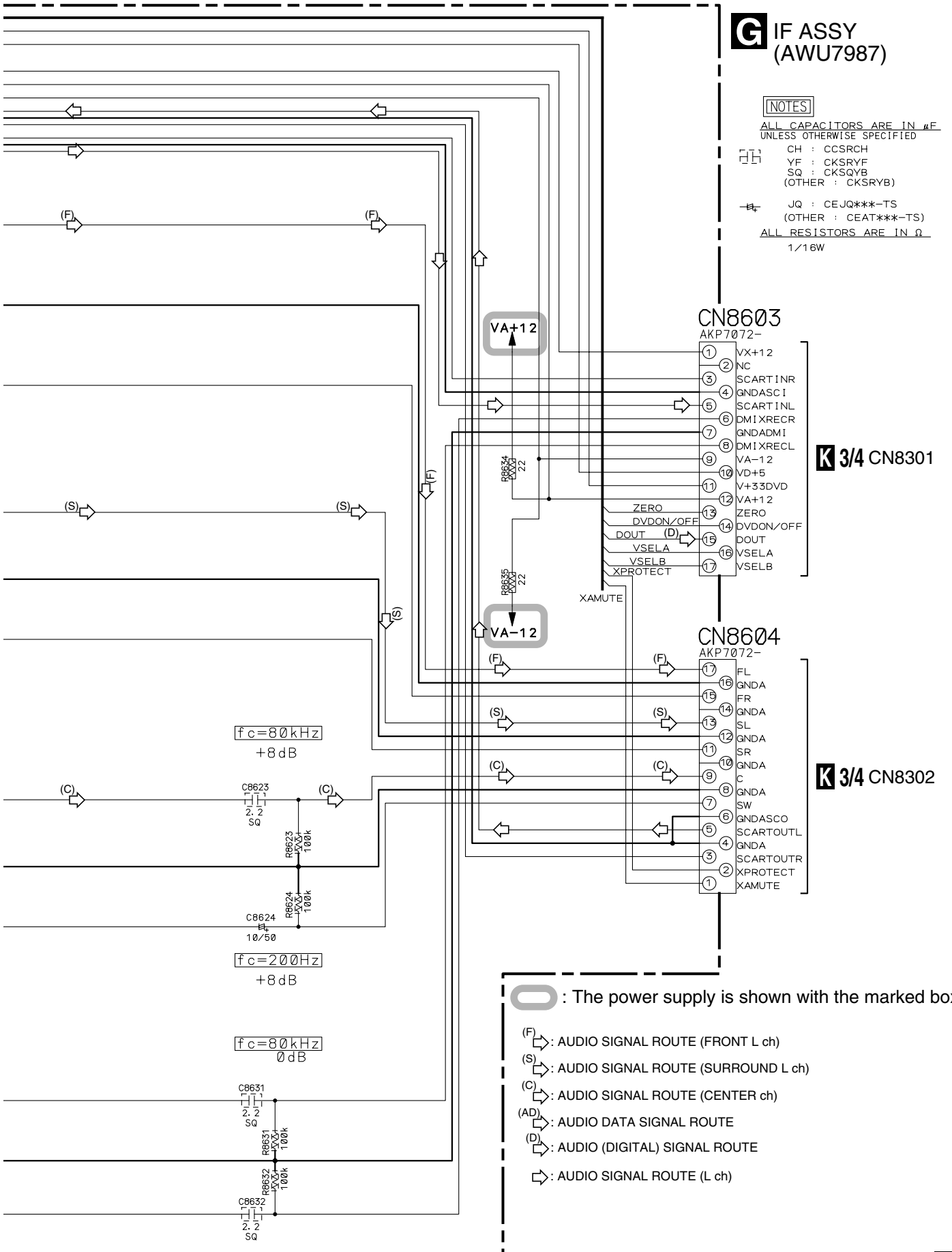
3.11 VIDEO (2/2) and COMPONENT ASSYS




(V): VIDEO SIGNAL ROUTE
(S_Y): S VIDEO SIGNAL ROUTE (Y)
(S_C): S VIDEO SIGNAL ROUTE (C)
: AUDIO SIGNAL ROUTE (L ch)
(P_Y): PROGRESSIVE SCAN VIDEO SIGNAL ROUTE (Y)
(P_Pb): PROGRESSIVE SCAN VIDEO SIGNAL ROUTE (Pb)
(P_Pr): PROGRESSIVE SCAN VIDEO SIGNAL ROUTE (Pr)
VV+12 VV+5 VD+5
D 1/2
JA8803
JA8806
JA8807
JA8805
CN8805
J8806
XV-DV1000/ZUCXJ ONLY
XV-DV1000/ZVYXJ ONLY
F COMPONENT ASSY (AWU7984)
AV CONNECTOR (RGB-TV)
Non Connection
: The power supply is shown with the marked box.
D 2/2 F

3.12 IF ASSY


CN8601
VKN1388
D 1/2 CN1403
DOUT
VSELA
DVDON/OFF
NC
ZERO
VSELB
XAMUTE
XPROTECT
V+33DVD
NC
VD+5
VX+12
VA+12
VA-12
SCARTOUTL
GNDASCO
SCARTOUTR
VX+12
CN8602
VKN1389
D 1/2 CN1404
SCARTINR
GNDASCI
SCARTINL
FL
GNDA
FR
GNDA
SL
GNDA
SR
GNDA
C
GNDA
SW
NC
DMIXRECR
GNDADMI
DMIXRECL
CN8605
VKN1389
D 1/2 CN1402
XDFSO
XDFSCK
XCSDF0
XAMUTE
LRCK0
GNDD
BCK0
GNDD
DATA0
XCSDF3
GNDD
DOUT
GNDD
NC
DATA3
GNDD
PCMMCK
NC
CN8606
VKN1197
B 4/4 CN561
IC8601(1/2) NJM4560M
IC8601(2/2) NJM4560M
IC8602(1/2) NJM4560M
IC8602 NJM4560M (2/2)
IC8603(1/2) NJM4560M
IC8603(2/2) NJM4560M
IC8604(1/2) NJM4560M
IC8604 NJM4560M (2/2)
fc=80kHz 0dB
fc=80kHz +8dB
VA+12
VA-12

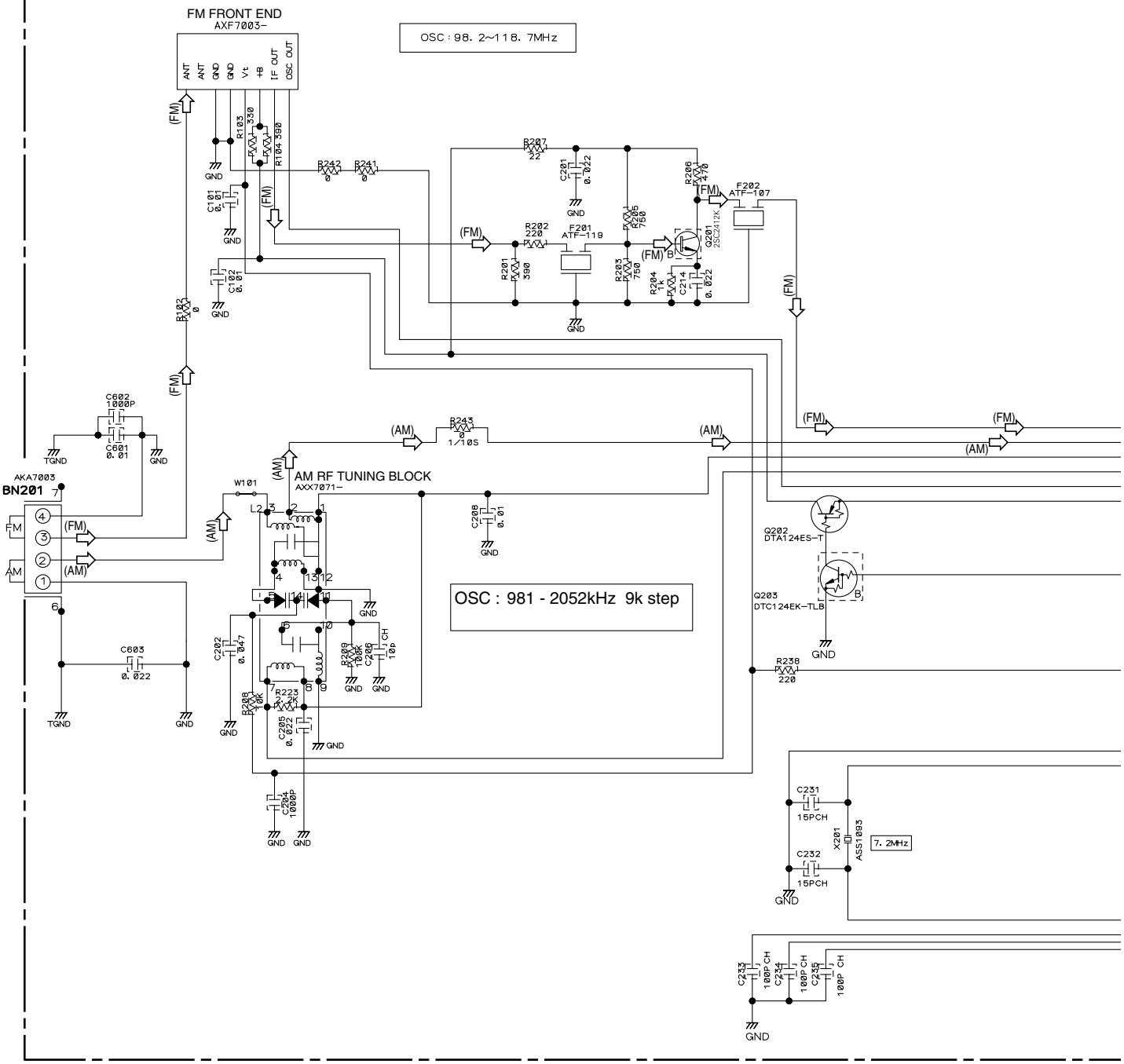

G IF ASSY (AWU7987)
NOTES
ALL CAPACITORS ARE IN μF UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
YF : CKSRYF
SQ : CKSQYB
(OTHER : CKSRYB)
JQ : CEJQ***-TS
(OTHER : CEAT***-TS)
ALL RESISTORS ARE IN Ω
1/16W
CN8603
AKP7072-
1 VX+12
2 NC
3 SCARTINR
4 GNDASCI
5 SCARTINL
6 DMIXRECR
7 GNDADMI
8 DMIXRECL
9 VA-12
10 VD+5
11 V+33DVD
12 VA+12
13 ZERO
14 DVDON/OFF
15 DOUT
16 VSELA
17 VSELB
K 3/4 CN8301
CN8604
AKP7072-
17 FL
16 GNDA
15 FR
14 GNDA
13 SL
12 GNDA
11 SR
10 GNDA
9 C
8 GNDA
7 SW
6 GNDASCO
5 SCARTOUTL
4 GNDA
3 SCARTOUTR
2 XPROTECT
1 XAMUTE
K 3/4 CN8302
VA+12
VA-12
R8634 22
R8635 22
XAMUTE
fc=80kHz
+8dB
C8623 2.2 SQ
R8623 100k
R8624 100k
C8624 10/50
fc=200Hz
+8dB
fc=80kHz
0dB
C8631 2.2 SQ
R8631 100k
R8632 100k
C8632 2.2 SQ
: The power supply is shown with the marked box.
(F): AUDIO SIGNAL ROUTE (FRONT L ch)
(S): AUDIO SIGNAL ROUTE (SURROUND L ch)
(C): AUDIO SIGNAL ROUTE (CENTER ch)
(AD): AUDIO DATA SIGNAL ROUTE
(D): AUDIO (DIGITAL) SIGNAL ROUTE
: AUDIO SIGNAL ROUTE (L ch)

3.13 FM/AM TUNER MODULE (AXQ7228)

Notes

1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS133.

H FM/AM TUNER MODULE (AXQ7228)

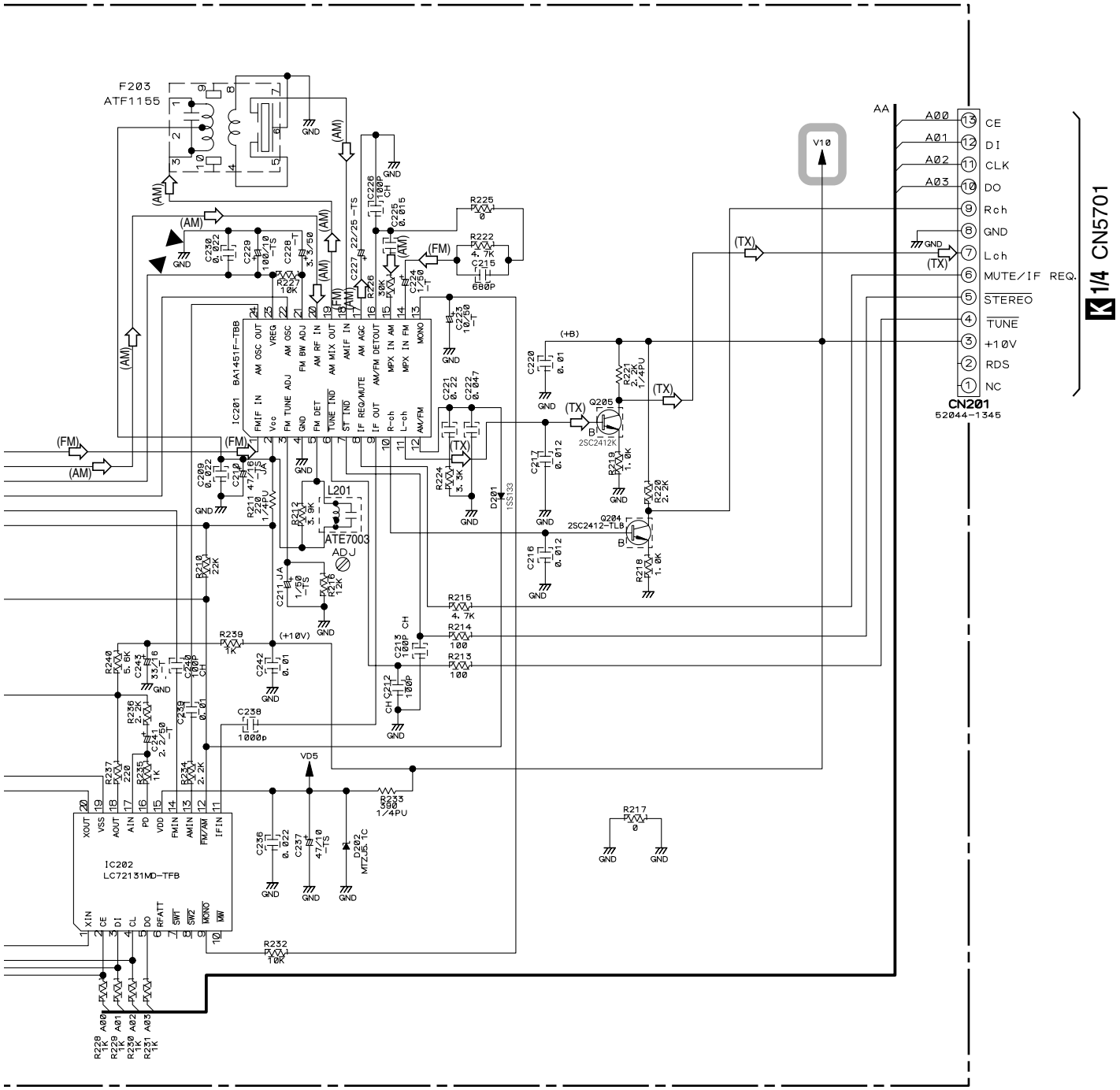


: The power supply is shown with the marked box.

(TX) : AUDIO SIGNAL ROUTE (TUNER)

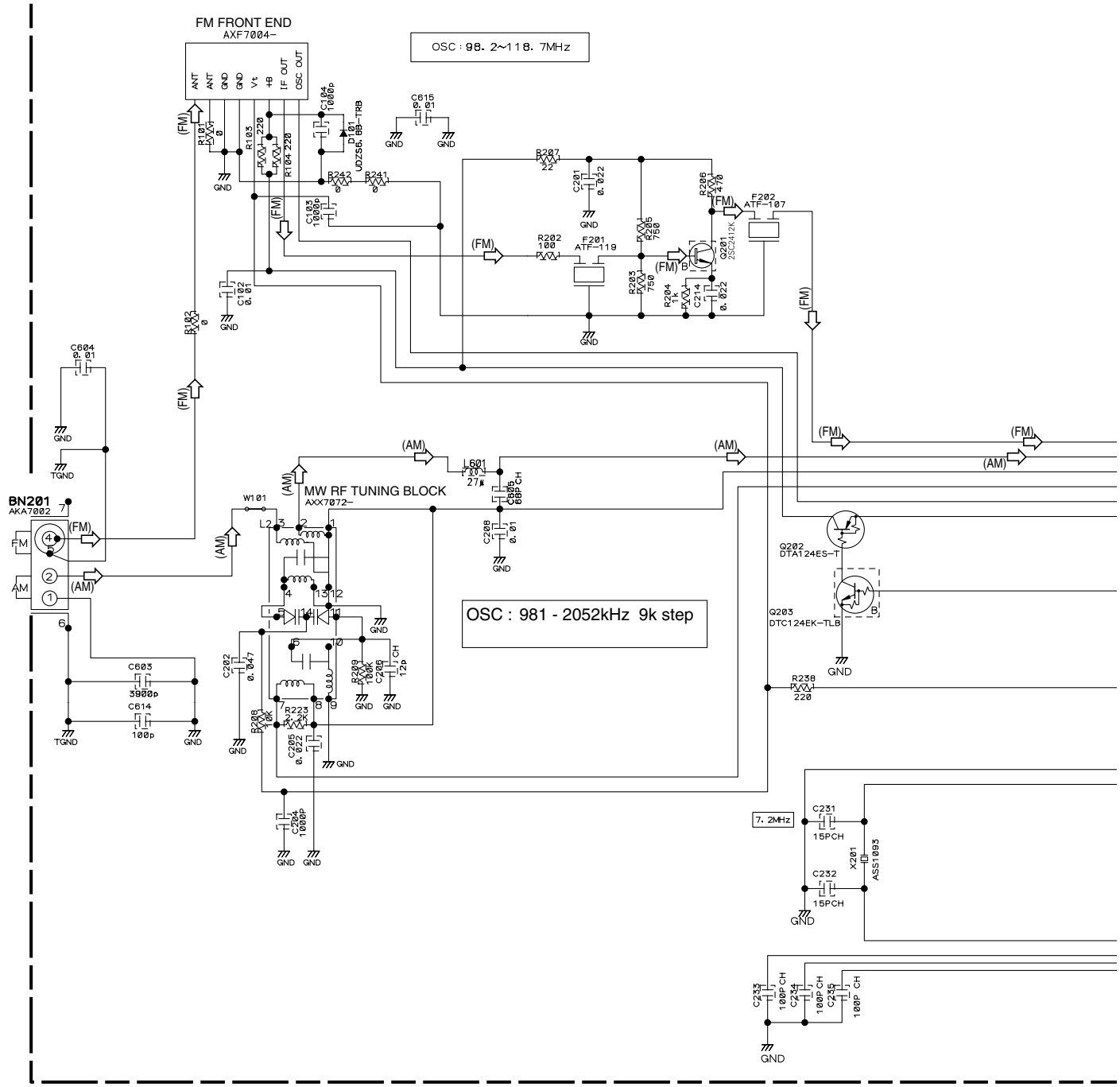
(AM) : AM SIGNAL ROUTE

(FM) : FM SIGNAL ROUTE



3.14 FM/AM TUNER MODULE (AXQ7229)

H FM/AM TUNER MODULE (AXQ7229)

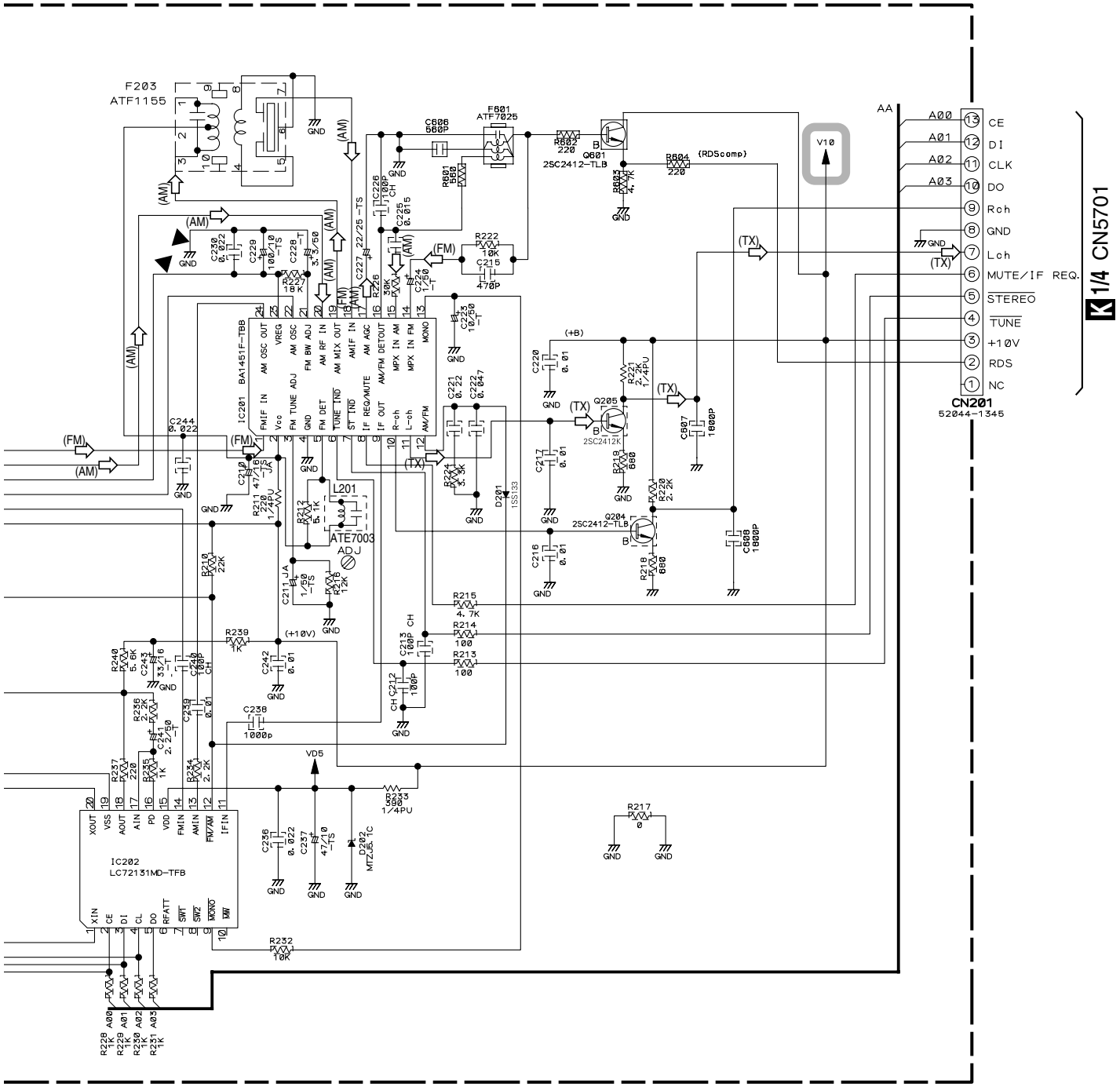


Notes

1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS133.

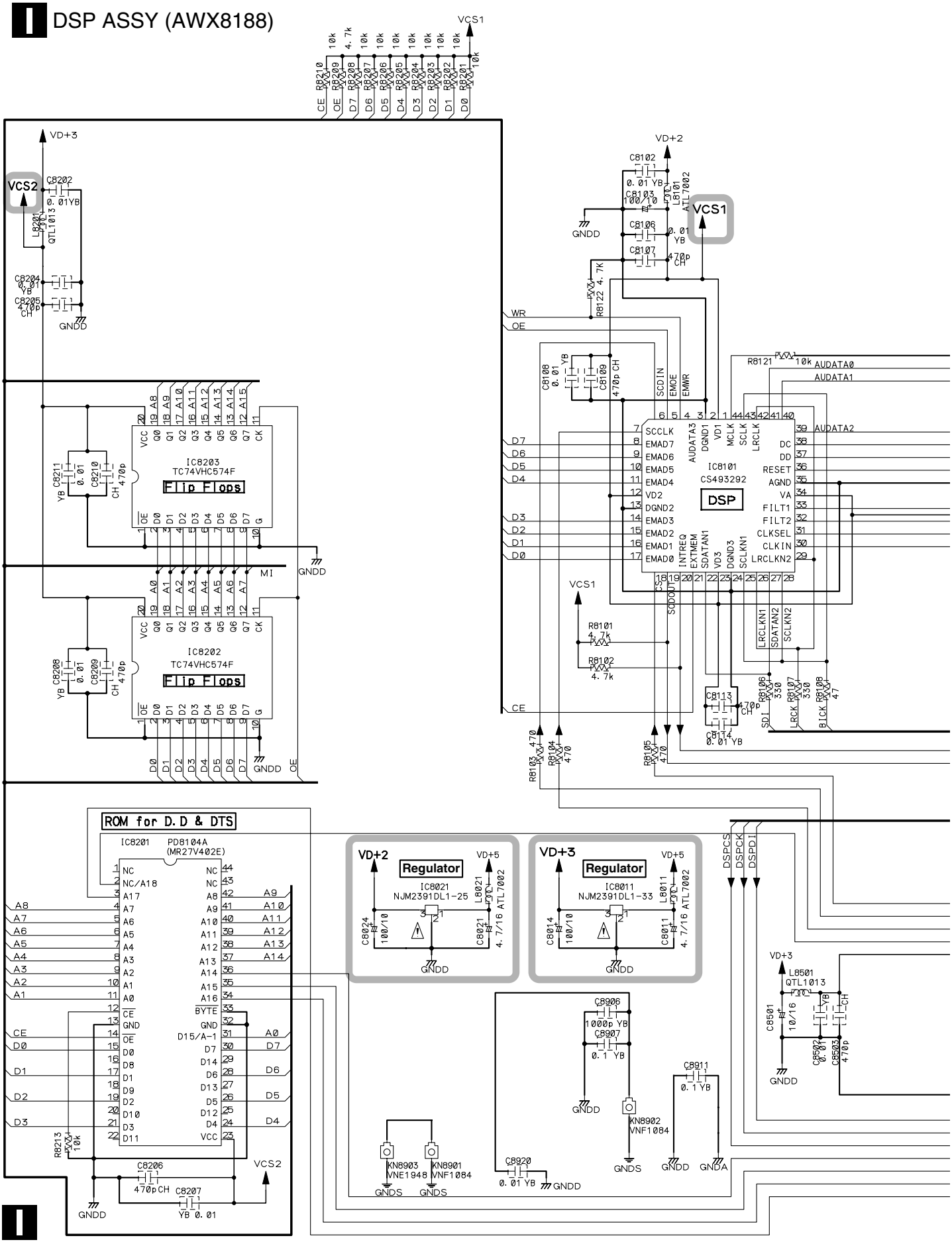
: The power supply is shown with the marked box.

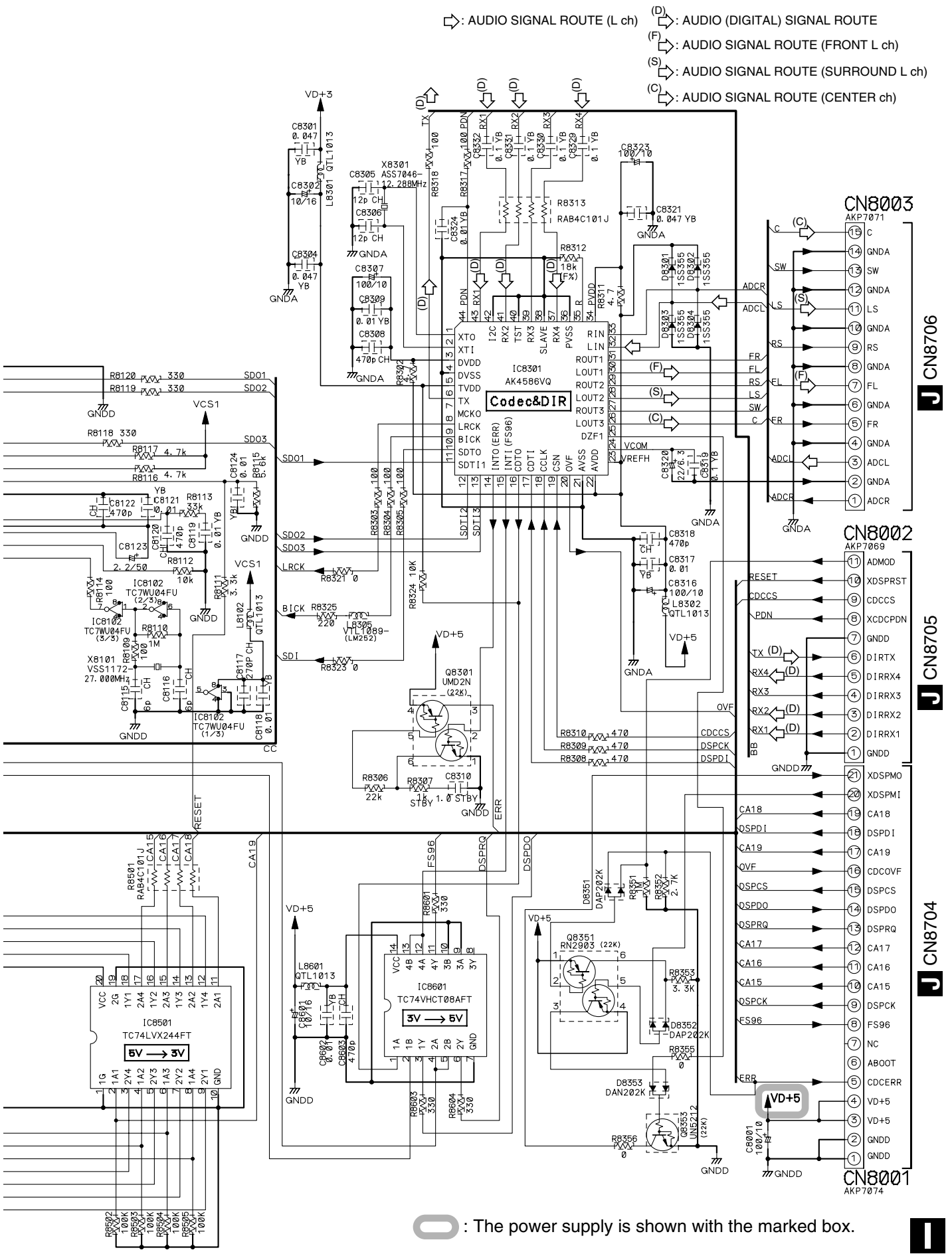
(TX) : AUDIO SIGNAL ROUTE (TUNER)
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE



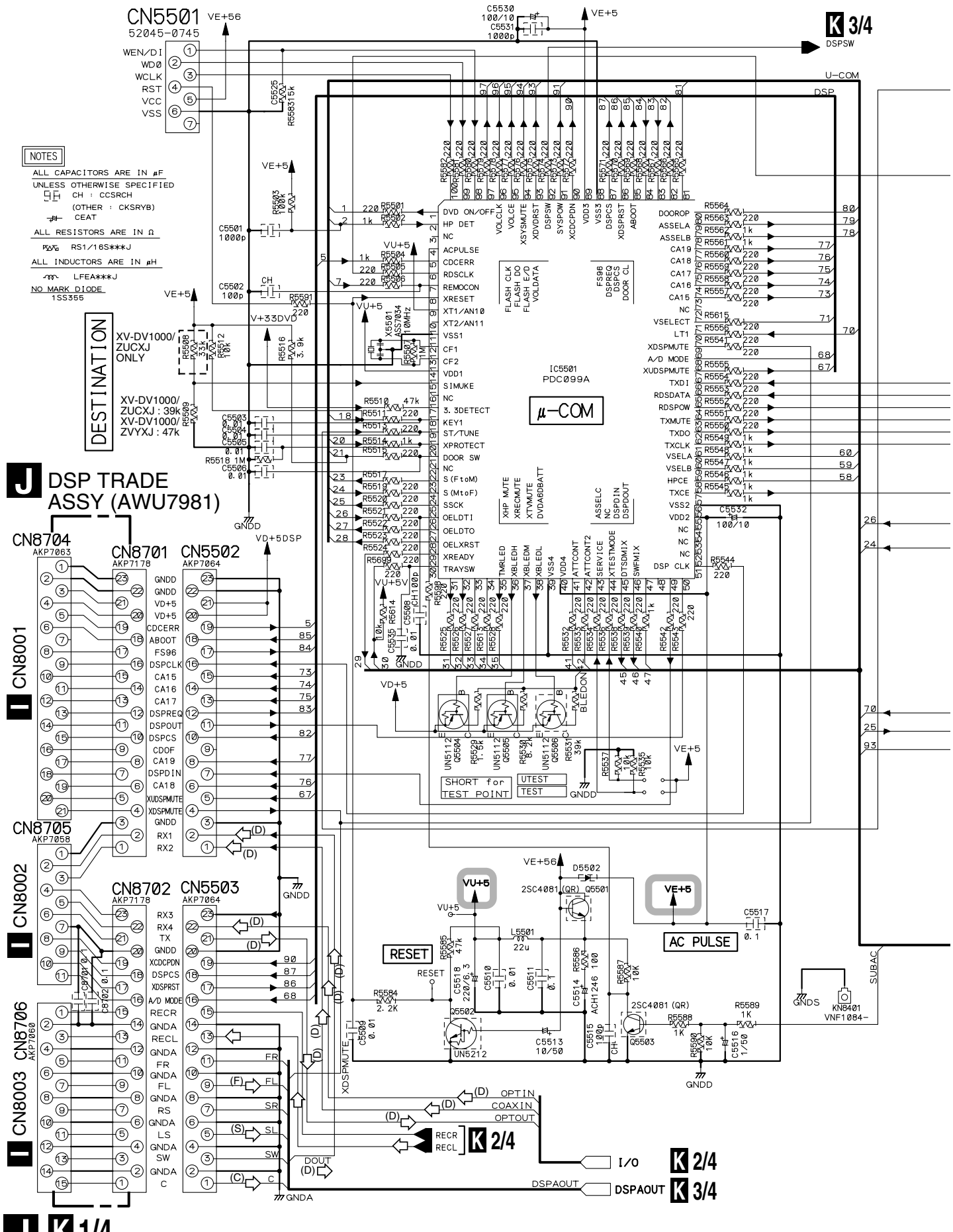
3.15 DSP ASSY

DSP ASSY (AWX8188)



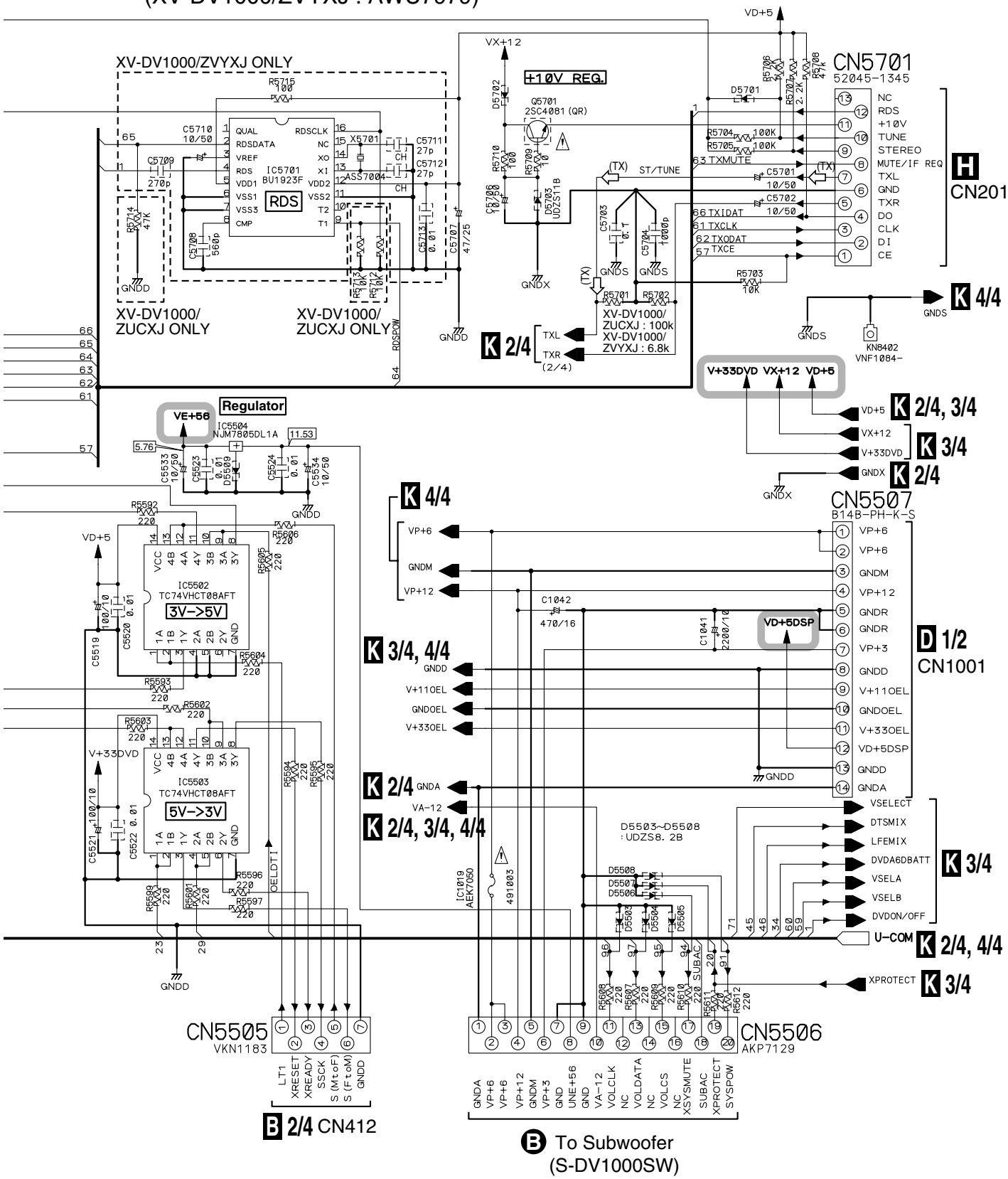

: AUDIO SIGNAL ROUTE (L ch)
(D): AUDIO (DIGITAL) SIGNAL ROUTE
(F): AUDIO SIGNAL ROUTE (FRONT L ch)
(S): AUDIO SIGNAL ROUTE (SURROUND L ch)
(C): AUDIO SIGNAL ROUTE (CENTER ch)
CN8003
AKP7071
CN8002
AKP7069
CN8001
AKP7074
CN8706
CN8705
CN8704
IC8301
AK4586VQ
Codec&DIR
IC8501
TC74LVX244FT
5V ⟶ 3V
IC8601
TC74VHCT08AFT
3V ⟶ 5V
IC8102
TC7WU04FU
X8301
ASS7046-
12.288MHz
X8101
VSS1172-
27.000MHz
: The power supply is shown with the marked box.

3.16 DSP TRADE and CONTROL (1/4) ASSYS



K 1/4 CONTROL ASSY
(XV-DV1000/ZUCXJ : AWU7982)
(XV-DV1000/ZVYXJ : AWU7979)

: The power supply is shown with the marked box.

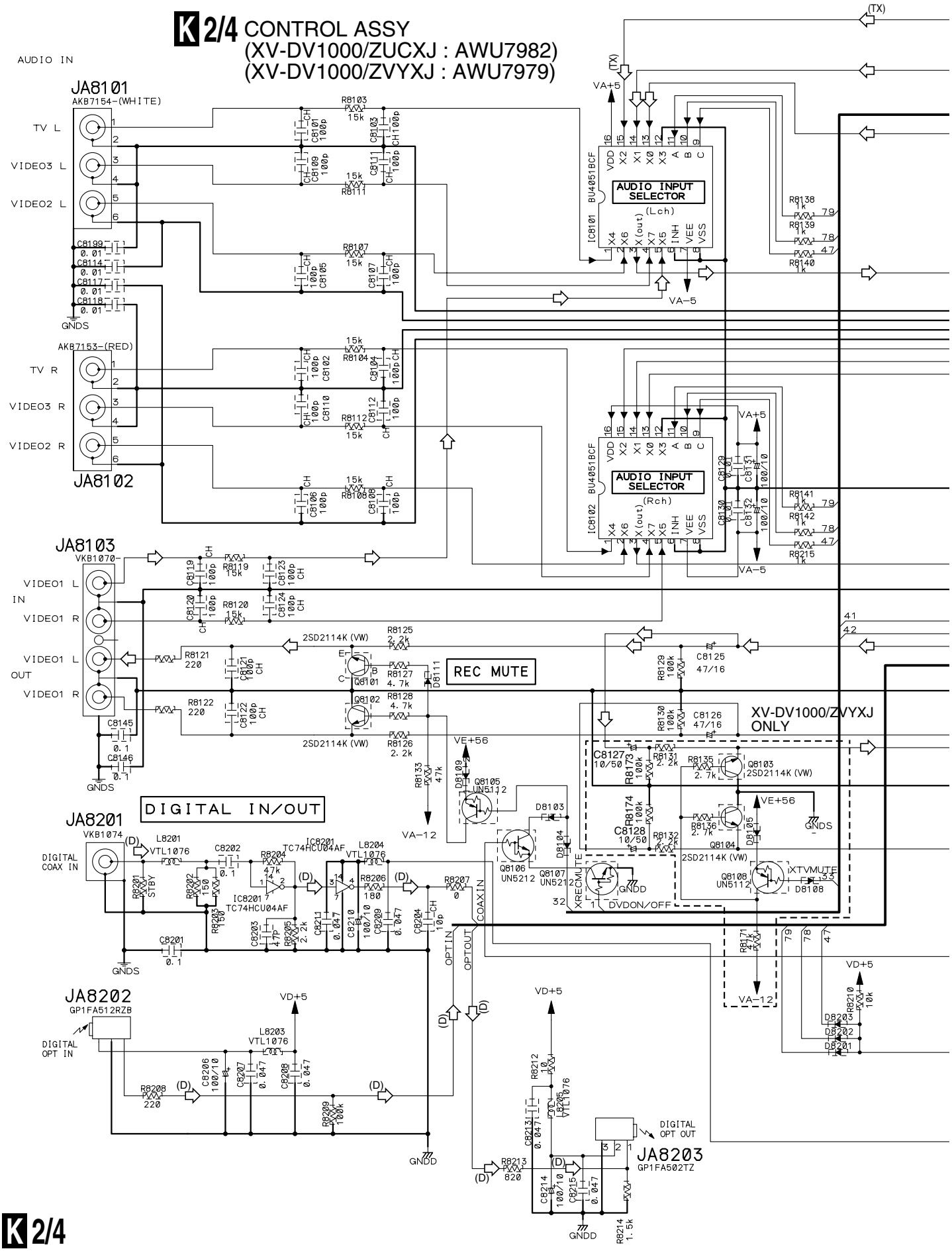


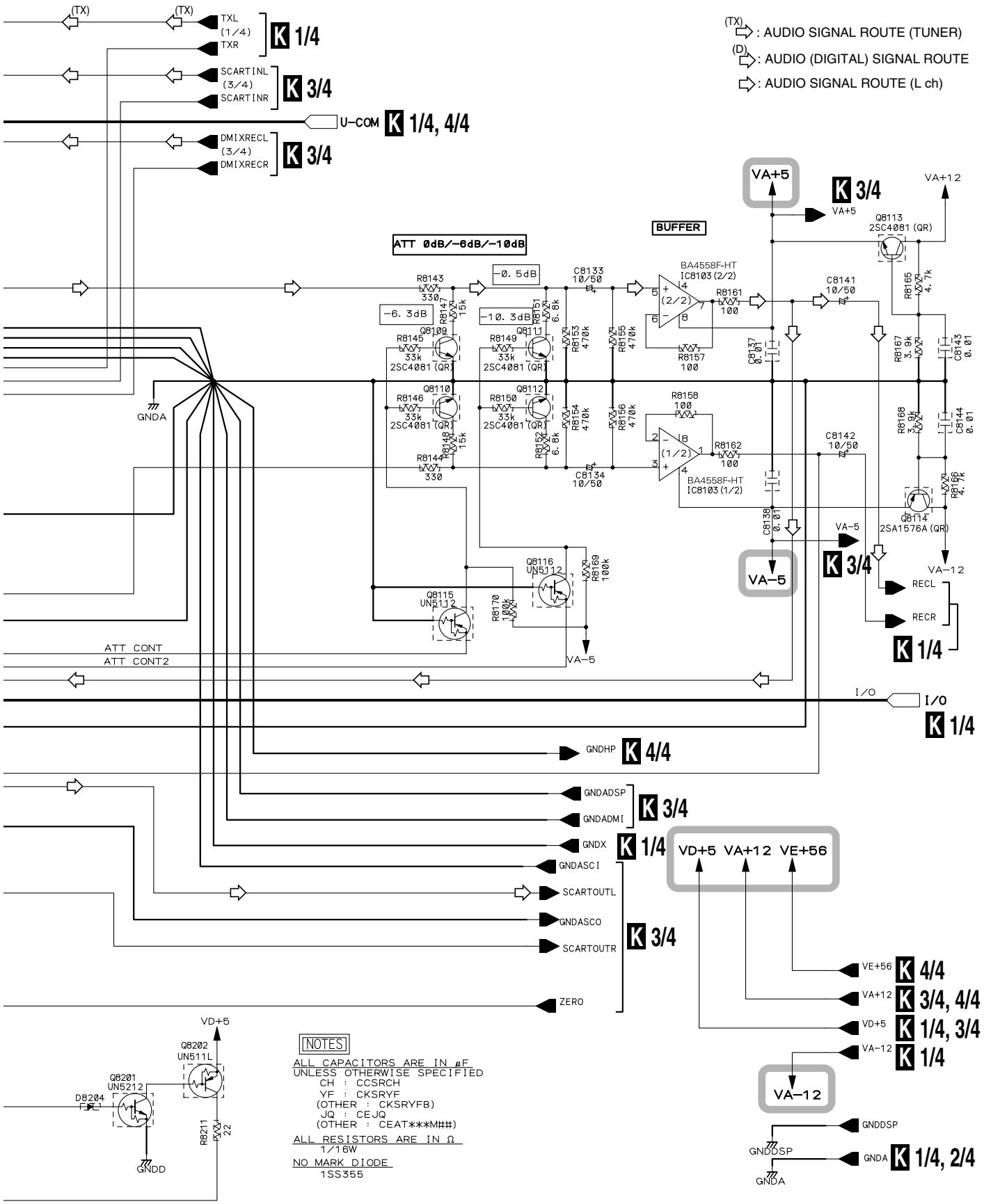
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491003 MFD, BY LITTELFUSE INK. FOR IC1019(AEK7050).

(TX) : AUDIO SIGNAL ROUTE (TUNER)
(D) : AUDIO (DIGITAL) SIGNAL ROUTE
: AUDIO SIGNAL ROUTE (L ch)
(F) : AUDIO SIGNAL ROUTE (FRONT L ch)
(S) : AUDIO SIGNAL ROUTE (SURROUND L ch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)

K 1/4

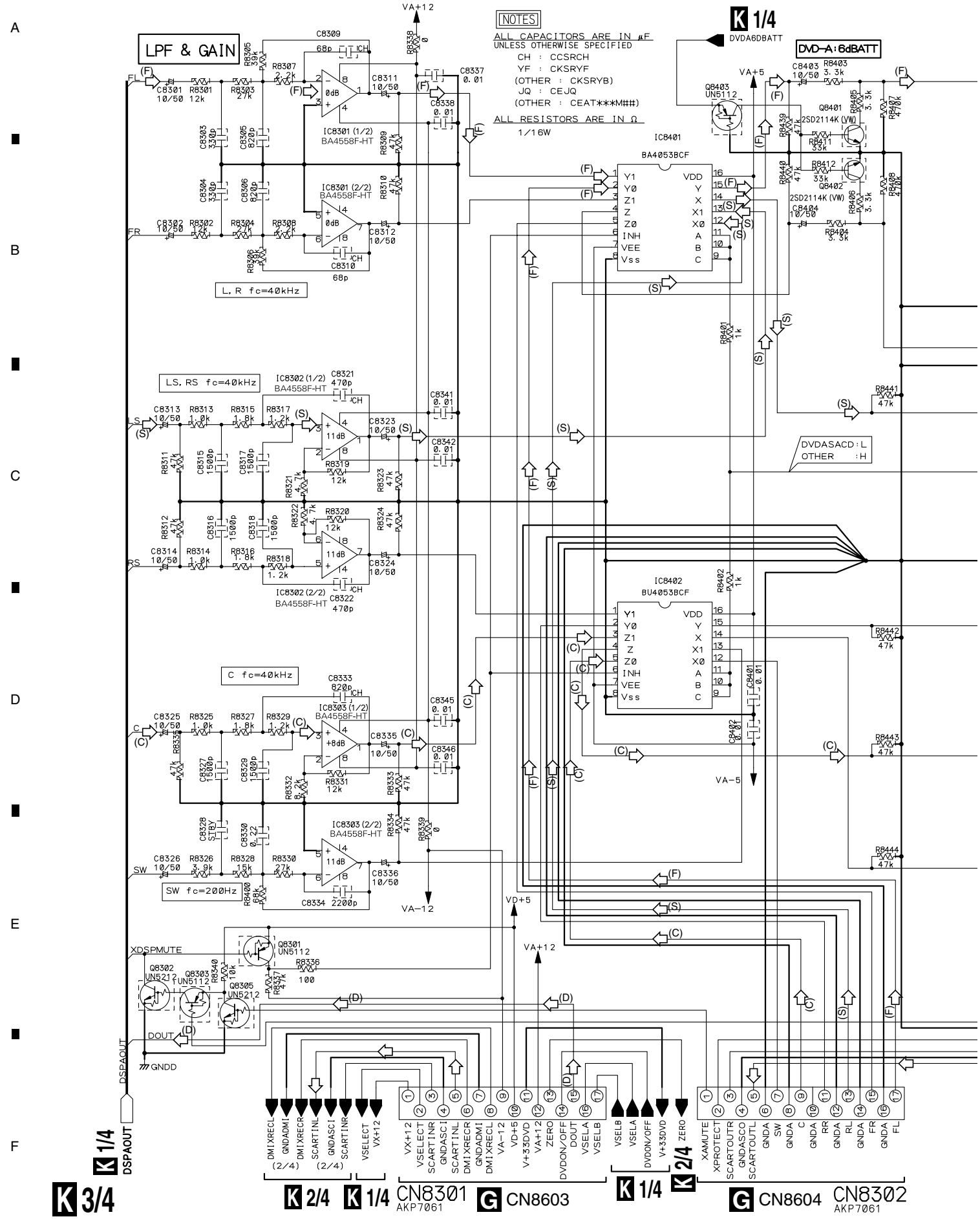
3.17 CONTROL ASSY (2/4)



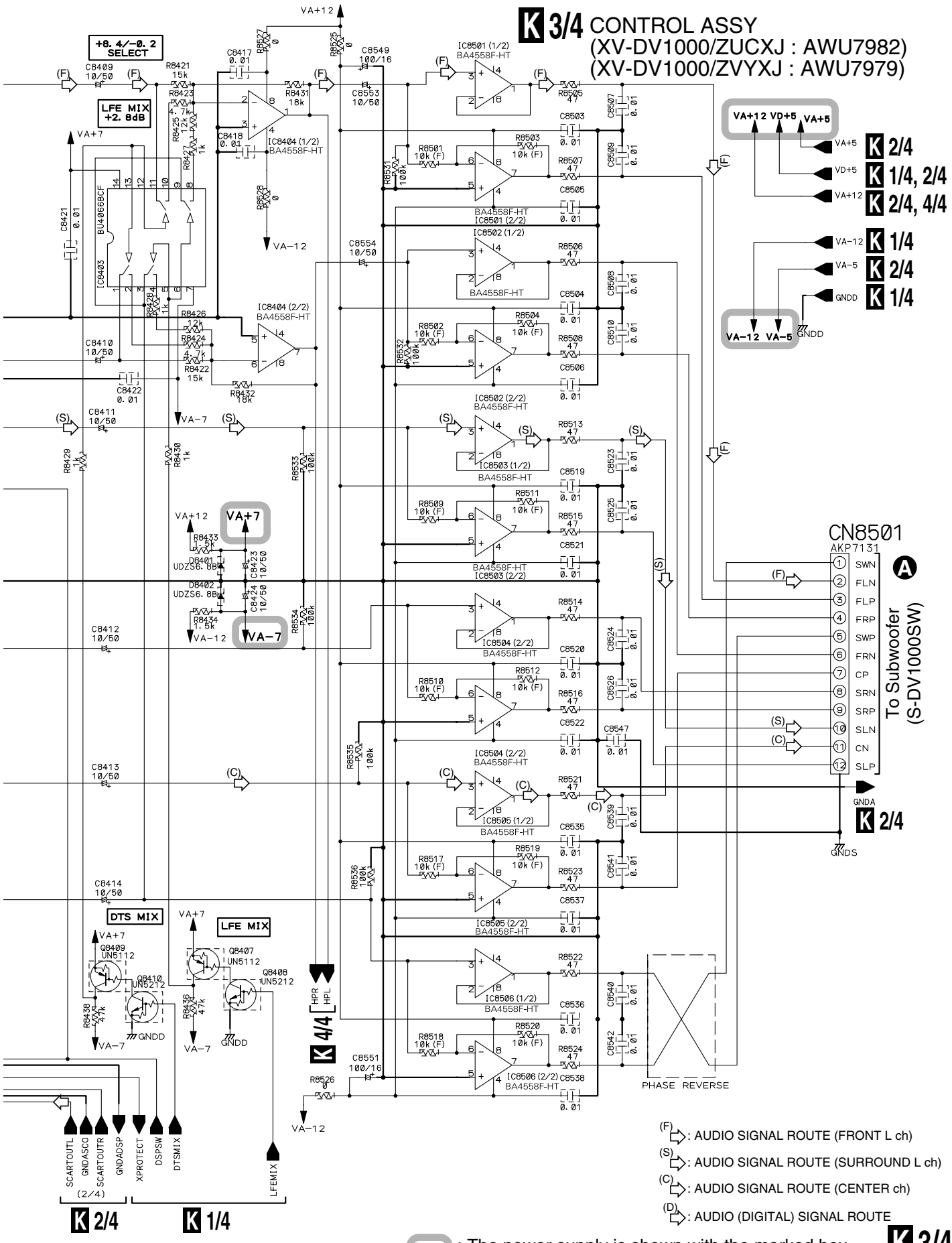


: The power supply is shown with the marked box. K 2/4

3.18 CONTROL ASSY (3/4)



K 3/4 CONTROL ASSY
(XV-DV1000/ZUCXJ : AWU7982)
(XV-DV1000/ZVYXJ : AWU7979)



(F): AUDIO SIGNAL ROUTE (FRONT L ch)

(S): AUDIO SIGNAL ROUTE (SURROUND L ch)

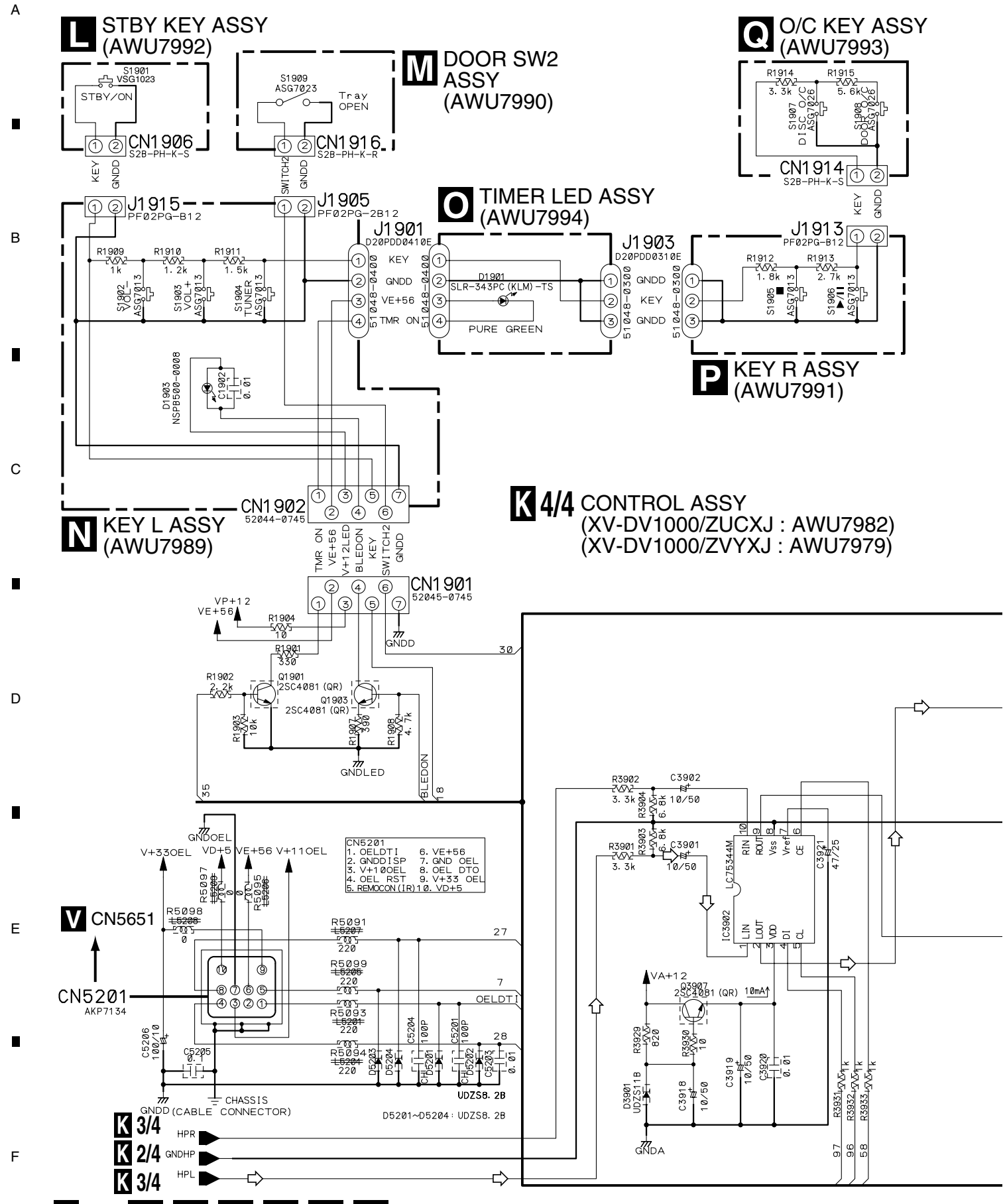
(C): AUDIO SIGNAL ROUTE (CENTER ch)

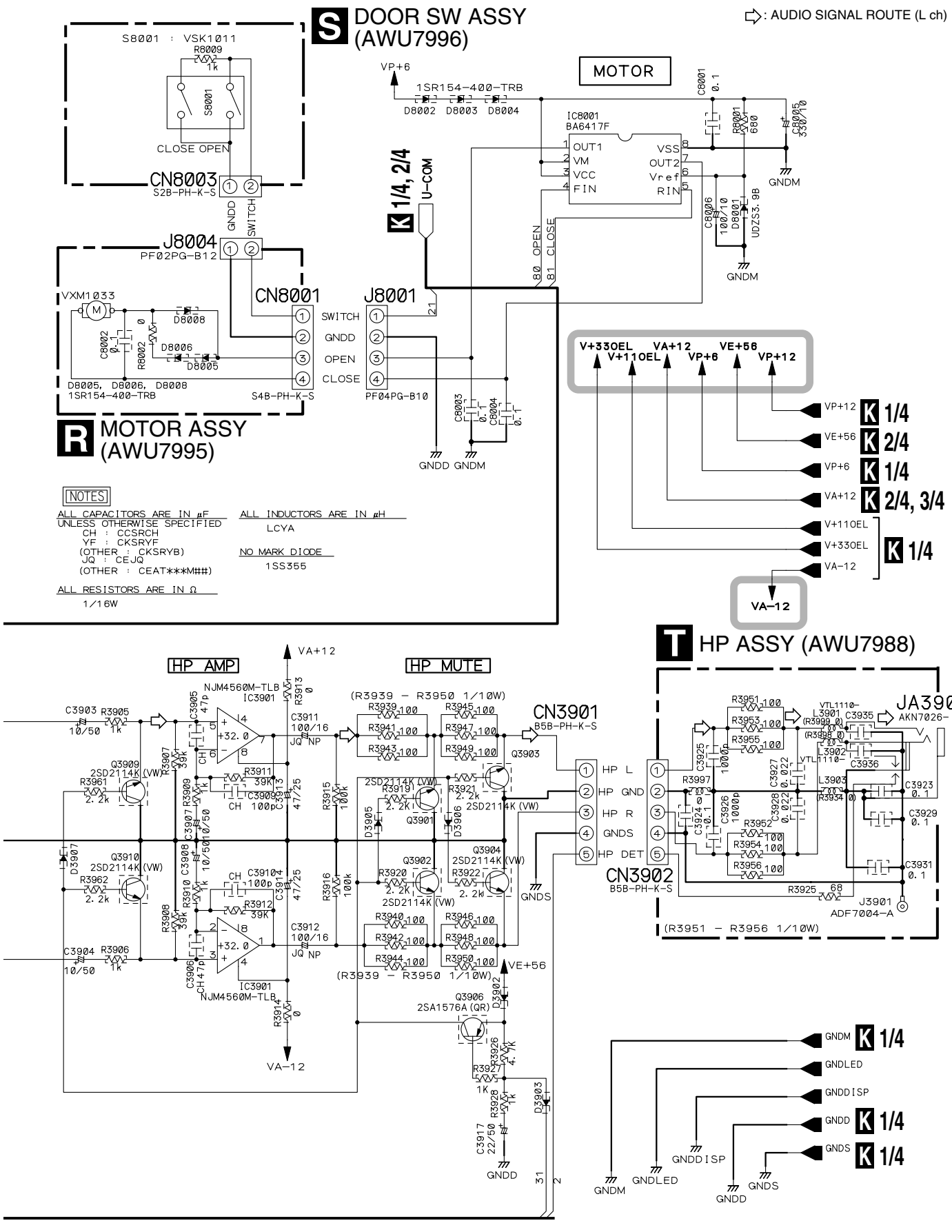
(D): AUDIO (DIGITAL) SIGNAL ROUTE

: The power supply is shown with the marked box.

K 3/4

3.19 CONT.(4/4), STBY KEY, D.SW2, KEY L, TIMER LED, KEY R, O/C KEY, MOTOR, D.SW, and HP ASSYS

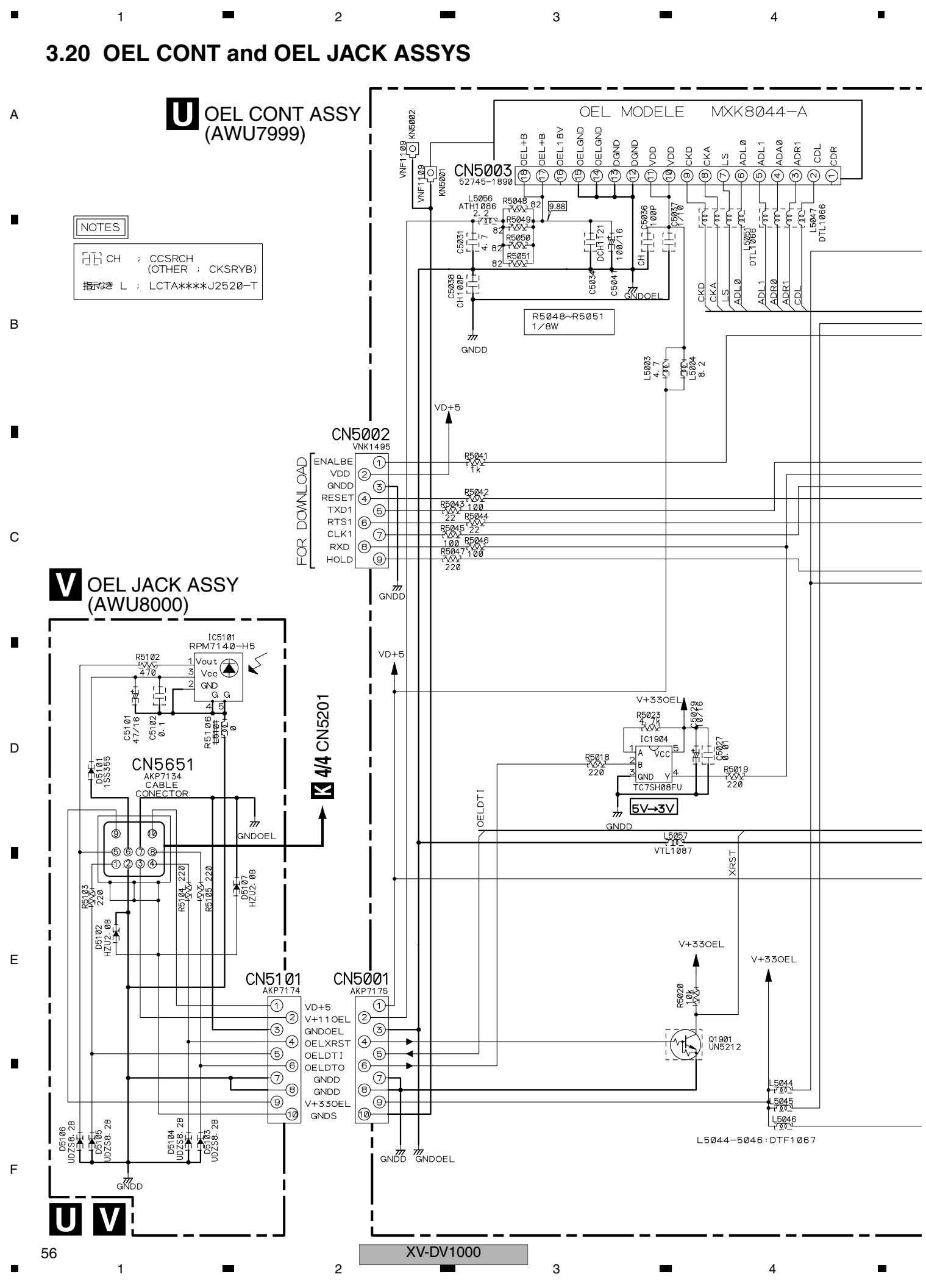


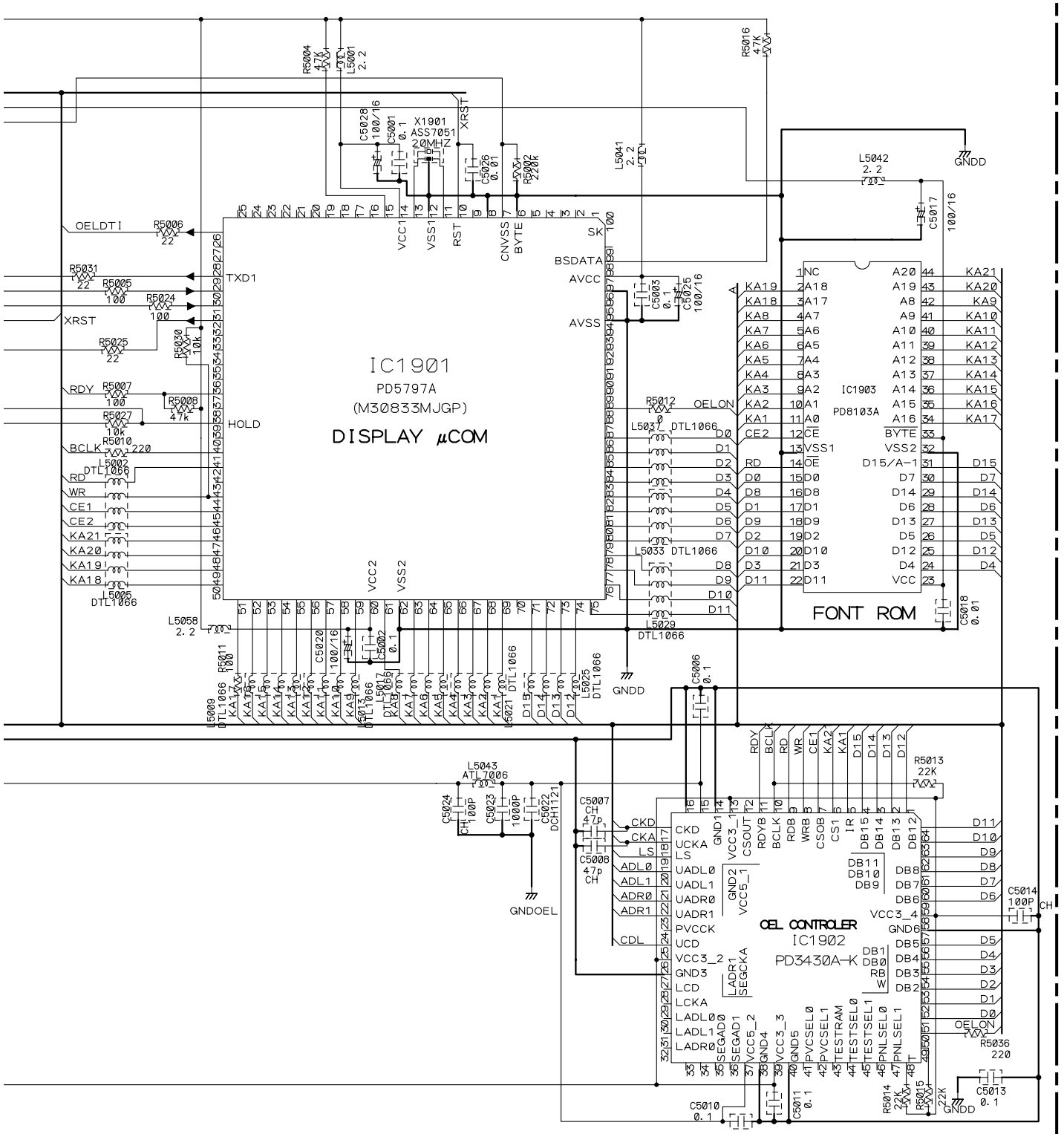


: The power supply is shown with the marked box.

K 4/4 R S T

3.20 OEL CONT and OEL JACK ASSYS




IC1901
PD5797A
(M30833MJGP)
DISPLAY μCOM
FONT ROM
IC1903
PD8103A
OEL CONTROLER
IC1902
PD3430A-K
X1901
ASS7051
20MHZ
GNDD
GNDOEL
OELDTI
TXD1
XRST
RDY
HOLD
BCLK
RD
WR
CE1
CE2
BSDATA
OELON

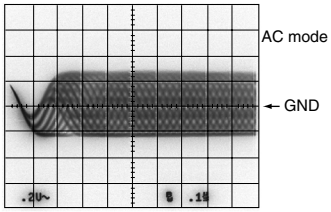
3.21 WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

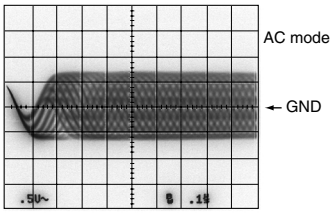
B DVDM ASSY

Measurement condition ; No. 1 to 4 and 6 to 11 : MJK1, Title 1-chp 1 No. 12 to 14 : DVD-REF-A1, T2-Chap.1
No. 5 : CD, ABEX-784 Track 1 No. 15 to 20 : DVD-REF-A1, T2-Chap.19

1 **IC101-pin 3 (RF)**
V: 200mV/div. H: 0.1µsec/div.

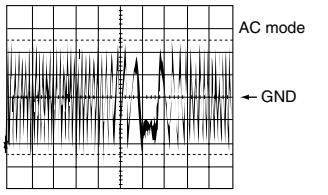


2 **Q106-emitter (RFO)**
V: 500mV/div. H: 0.1µsec/div.

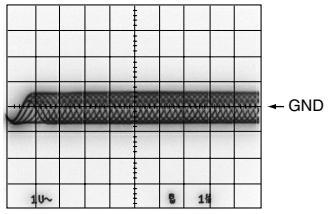


3

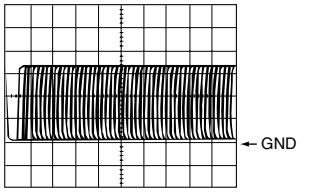
4 **IC101-pin 42 (Tracking Error)**
(AI-Inner Tracking Off)
V: 500mV/div. H: 2msec/div.



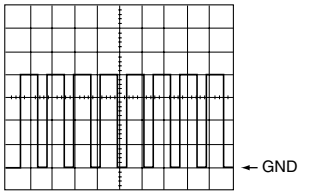
5 **IC201 - pin 39 (EFM before slice)**
V: 0.5V/div. H: 0.2µsec/div.



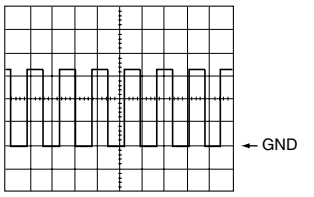
6 **IC201 - pin 1 (EFM)**
V: 1V/div. H: 0.2µsec/div.



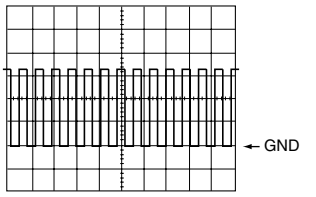
7 **IC251 - pin 24 (FG)**
V: 1V/div. H: 5msec/div.



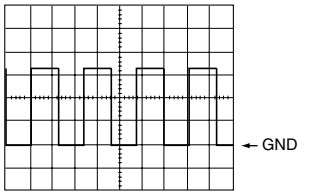
8 **Foot of R261 (FPWM)**
V: 1V/div. H: 10µsec/div.



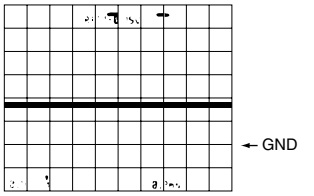
9 **Foot of R262 (VPWM)**
V: 1V/div. H: 10µsec/div.



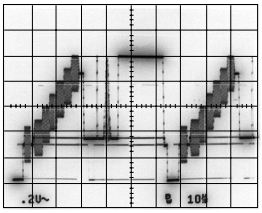
10 **Foot of R263 (PPWM)**
V: 1V/div. H: 0.2msec/div.



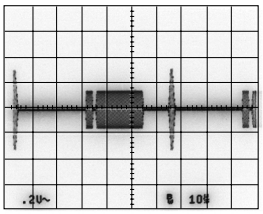
11 **Foot of R264 (RPWM)**
V: 1V/div. H: 5msec/div.



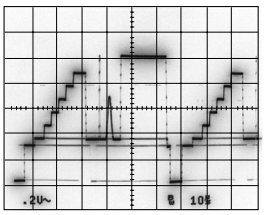
12 **Foot of R964 (V)**
V: 0.2V/div. H: 10µsec/div.



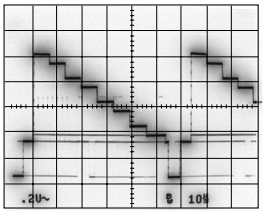
13 **Foot of R963 (C)**
V: 0.2V/div. H: 10µsec/div.



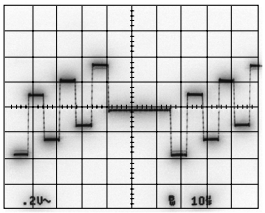
14 **Foot of R960 (Y)**
V: 0.2V/div. H: 10µsec/div.



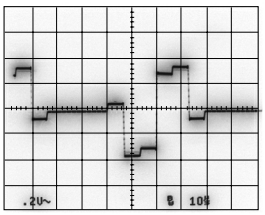
15 **Foot of R959 (Y)**
V: 0.2V/div. H: 10µsec/div.



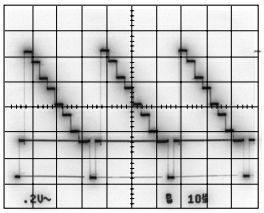
16 **Foot of R958 (Pb)**
V: 0.2V/div. H: 10µsec/div.



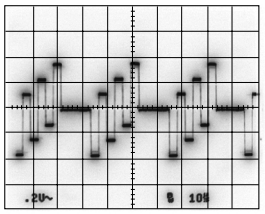
17 **Foot of R957 (Pr)**
V: 0.2V/div. H: 10µsec/div.



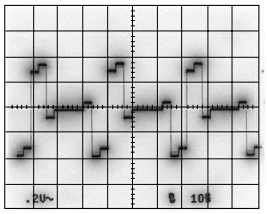
18 **Foot of R959 (Y)**
V: 0.2V/div. H: 10µsec/div.



19 **Foot of R958 (Pb)**
V: 0.2V/div. H: 10µsec/div.



20 **Foot of R957 (Pr)**
V: 0.2V/div. H: 10µsec/div.



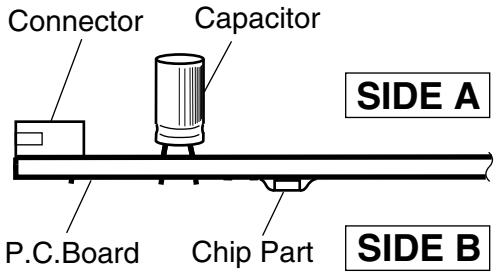
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

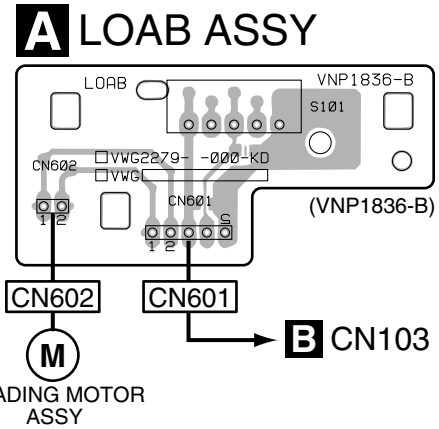
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

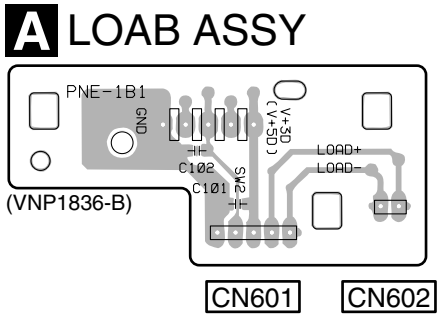


4.1 LOAB ASSY

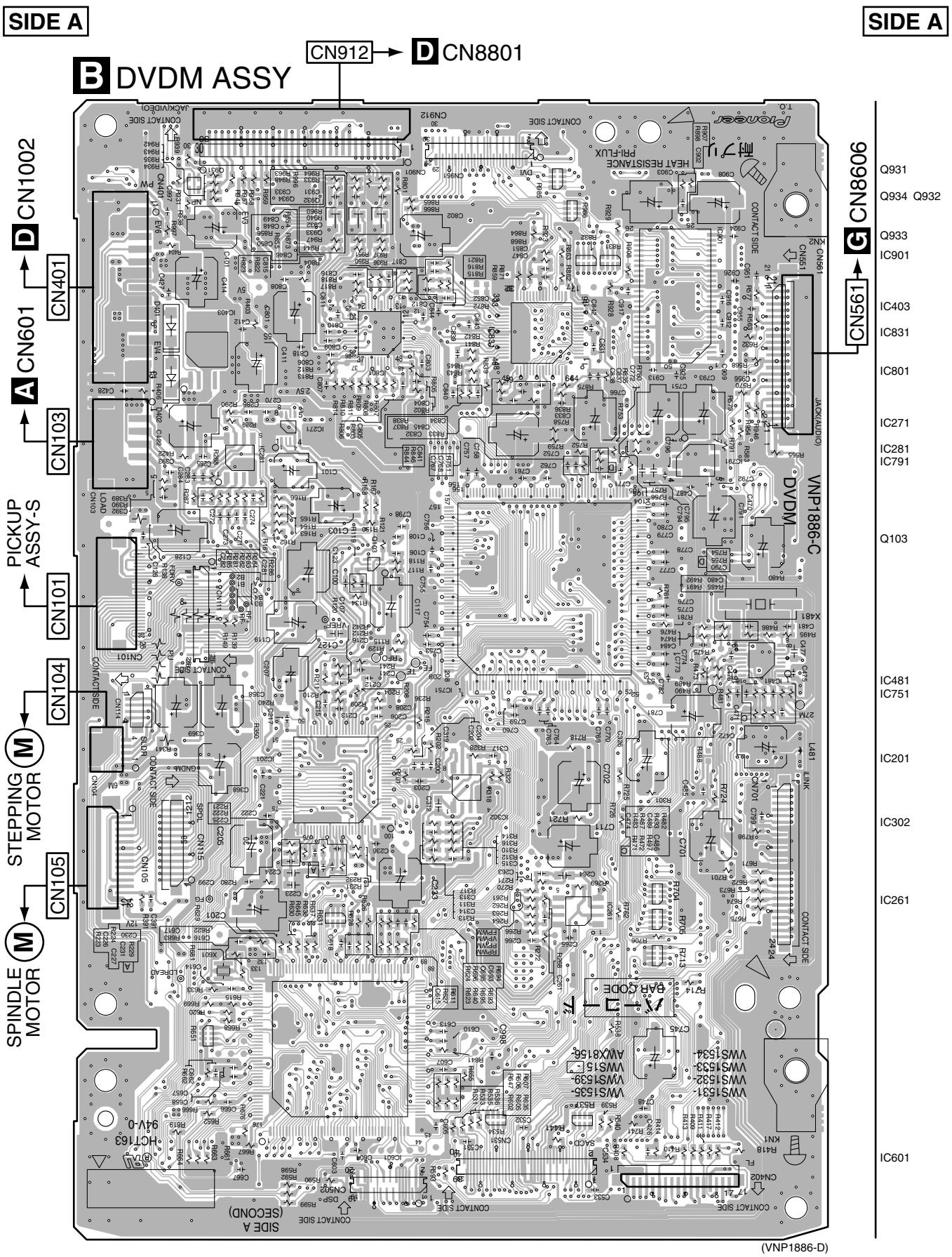
SIDE A



SIDE B



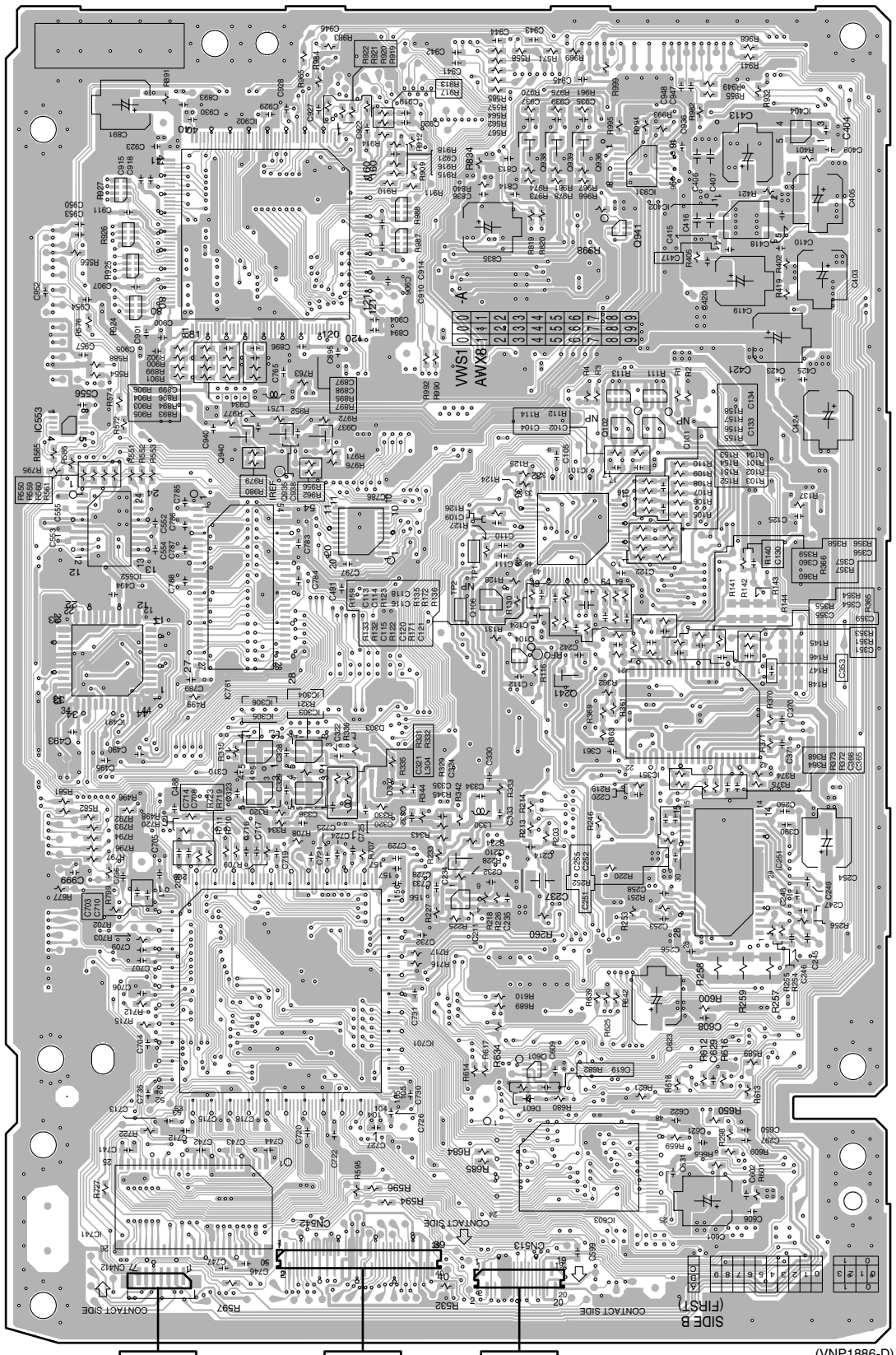
4.2 DVDM ASSY


SIDE A
SIDE A
B DVDM ASSY
CN912
D CN8801
D CN1002
D CN401
A CN601
A CN103
PICKUP ASSY-S
CN101
CN104
STEPPING MOTOR
CN105
SPINDLE MOTOR
G CN8606
CN561
Q931
Q934 Q932
Q933
IC901
IC403
IC831
IC801
IC271
IC281
IC791
Q103
IC481
IC751
IC201
IC302
IC261
IC601
VNP1886-C
DVDM
(VNP1886-D)

SIDE B

SIDE B

B DVDM ASSY



CN412 K B CN5505

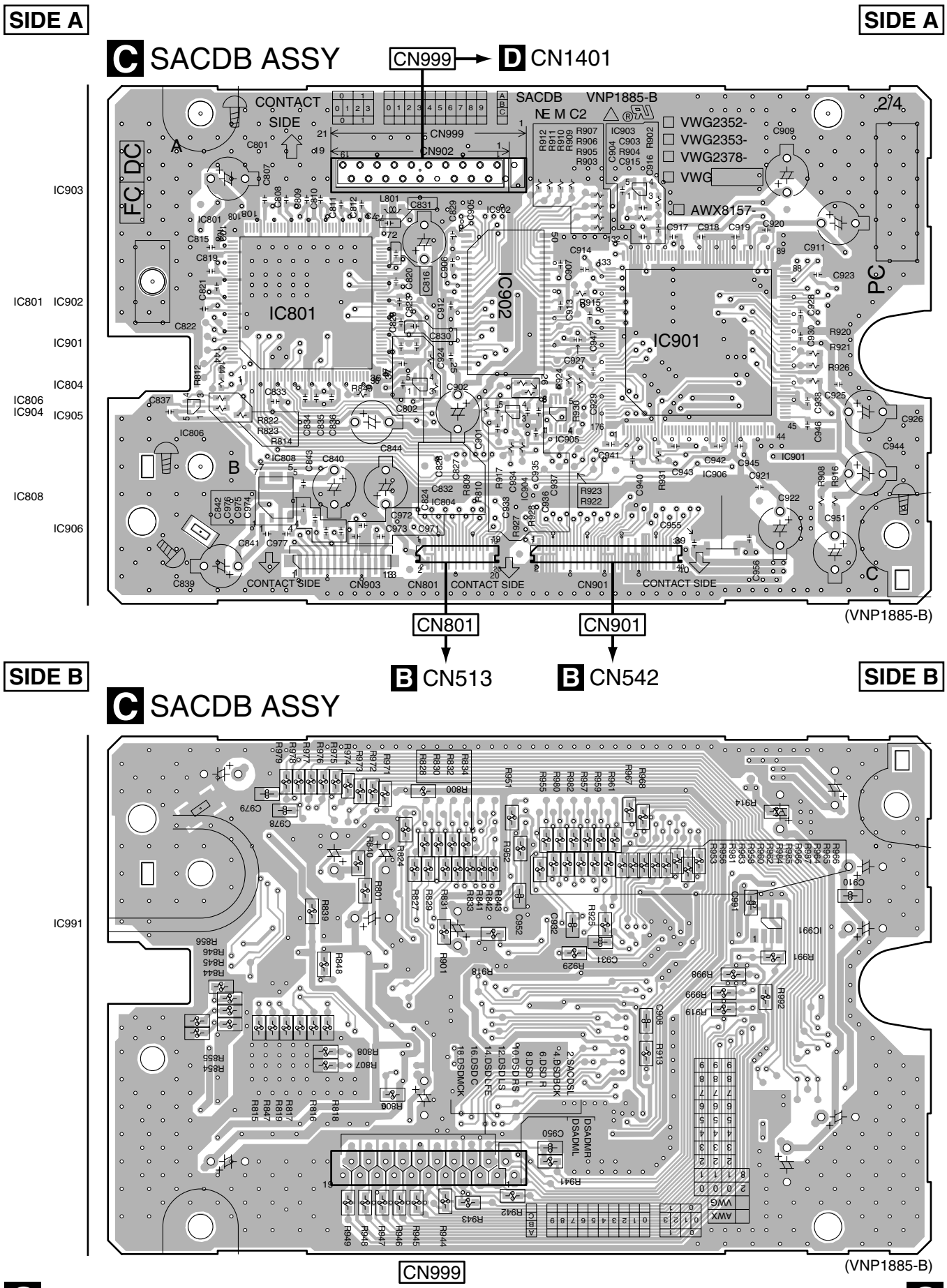
CN542 CN901 C

CN513 C CN801

B

XV-DV1000

4.3 SACDB ASSY

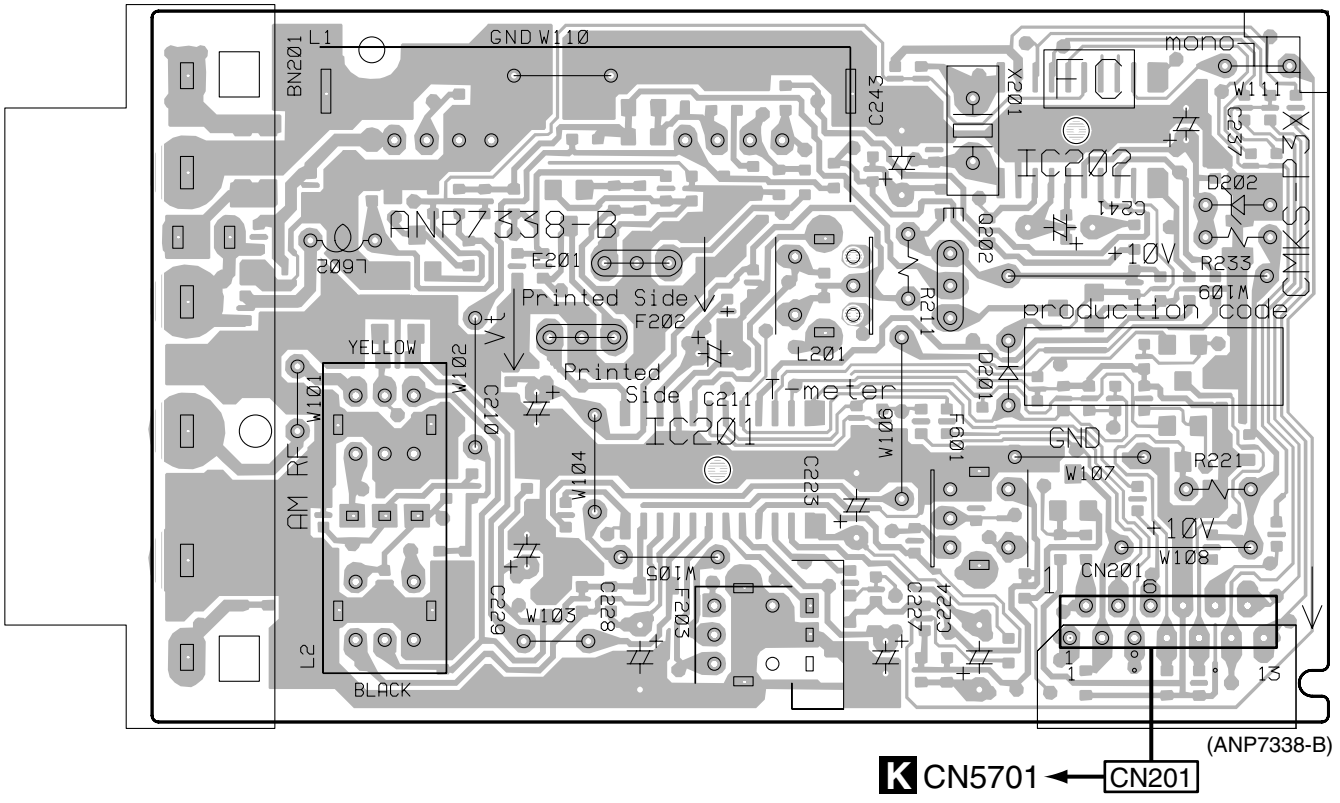


4.4 FM/AM TUNER MODULE

SIDE A

H FM/AM TUNER MODULE

SIDE A



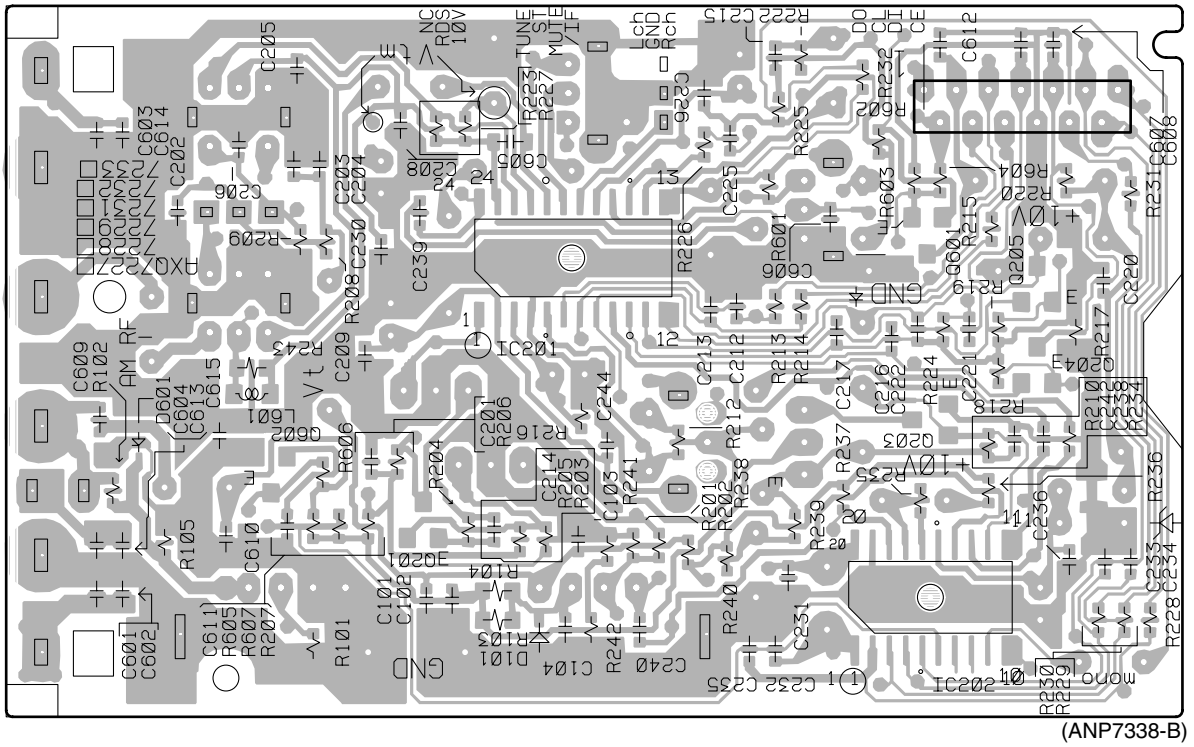
Q202

SIDE B

SIDE B

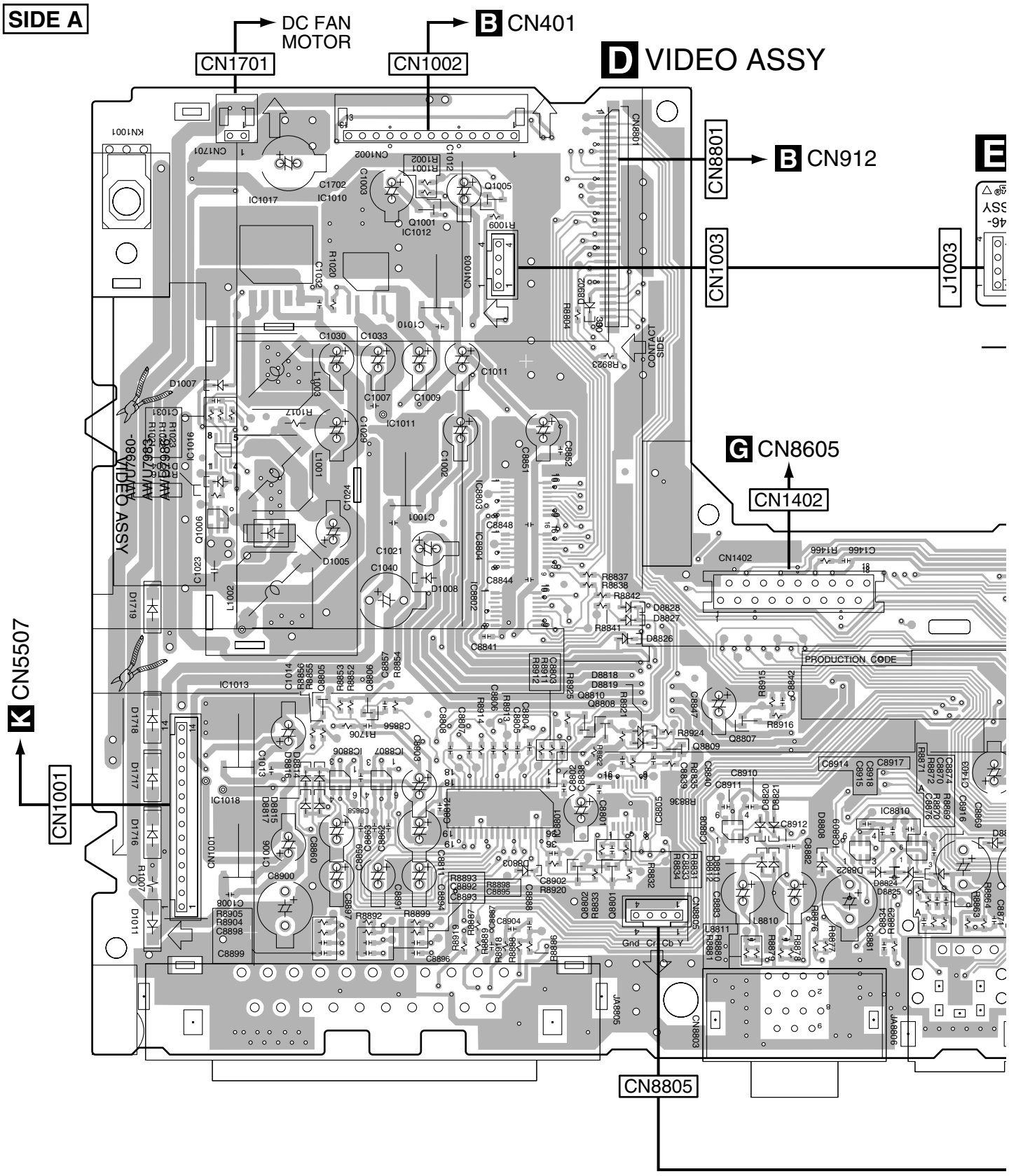
H FM/AM TUNER MODULE

CN201



Q602 Q201 IC201 Q601 Q203 IC202 Q205 Q204

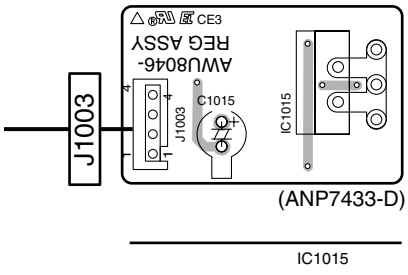
4.5 VIDEO, REG and COMPONENT ASSYS



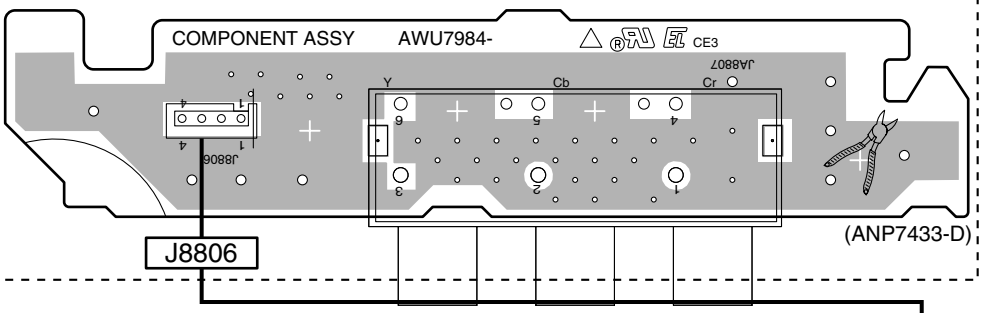
SIDE A

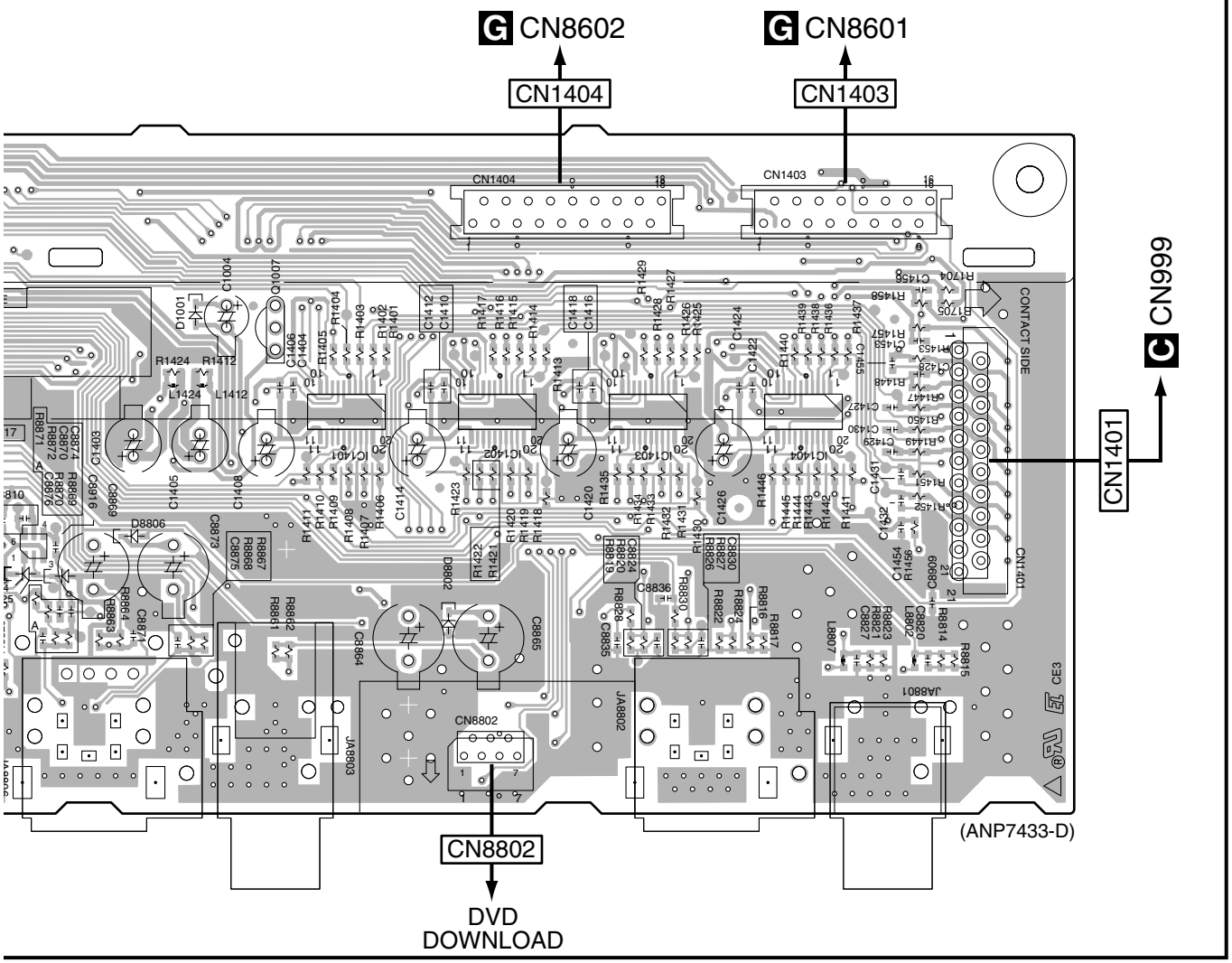
XV-DV1000/ZUCXJ ONLY

E REG ASSY



F COMPONENT ASSY





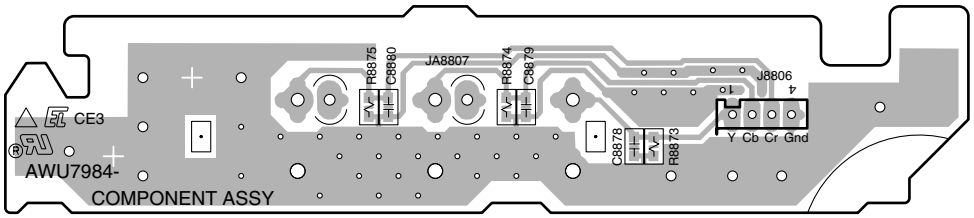
IC8810 Q1007 IC1401 IC1402 IC1403 IC1404

D E F

SIDE B

XV-DV1000/ZUCXJ ONLY

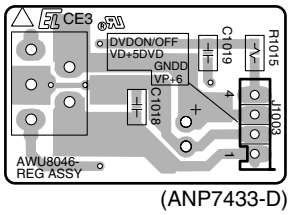
F COMPONENT ASSY



(ANP7433-D)

J8806

E REG ASSY

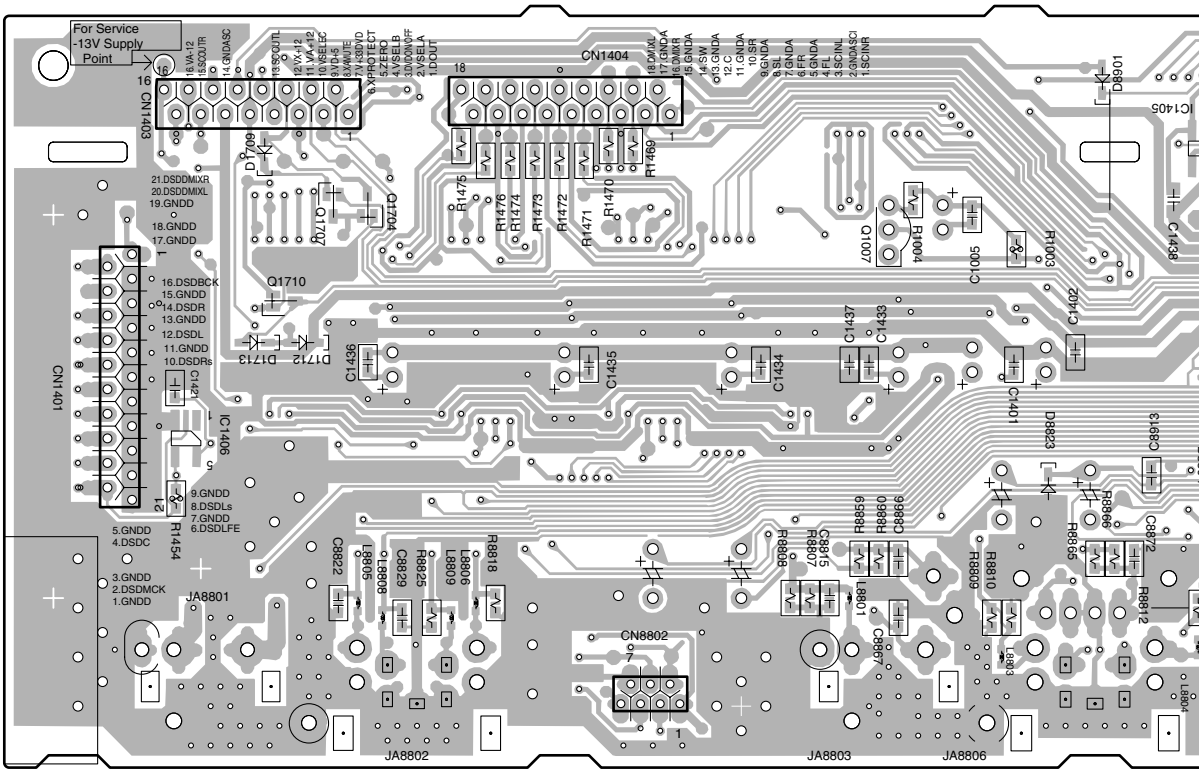


(ANP7433-D)

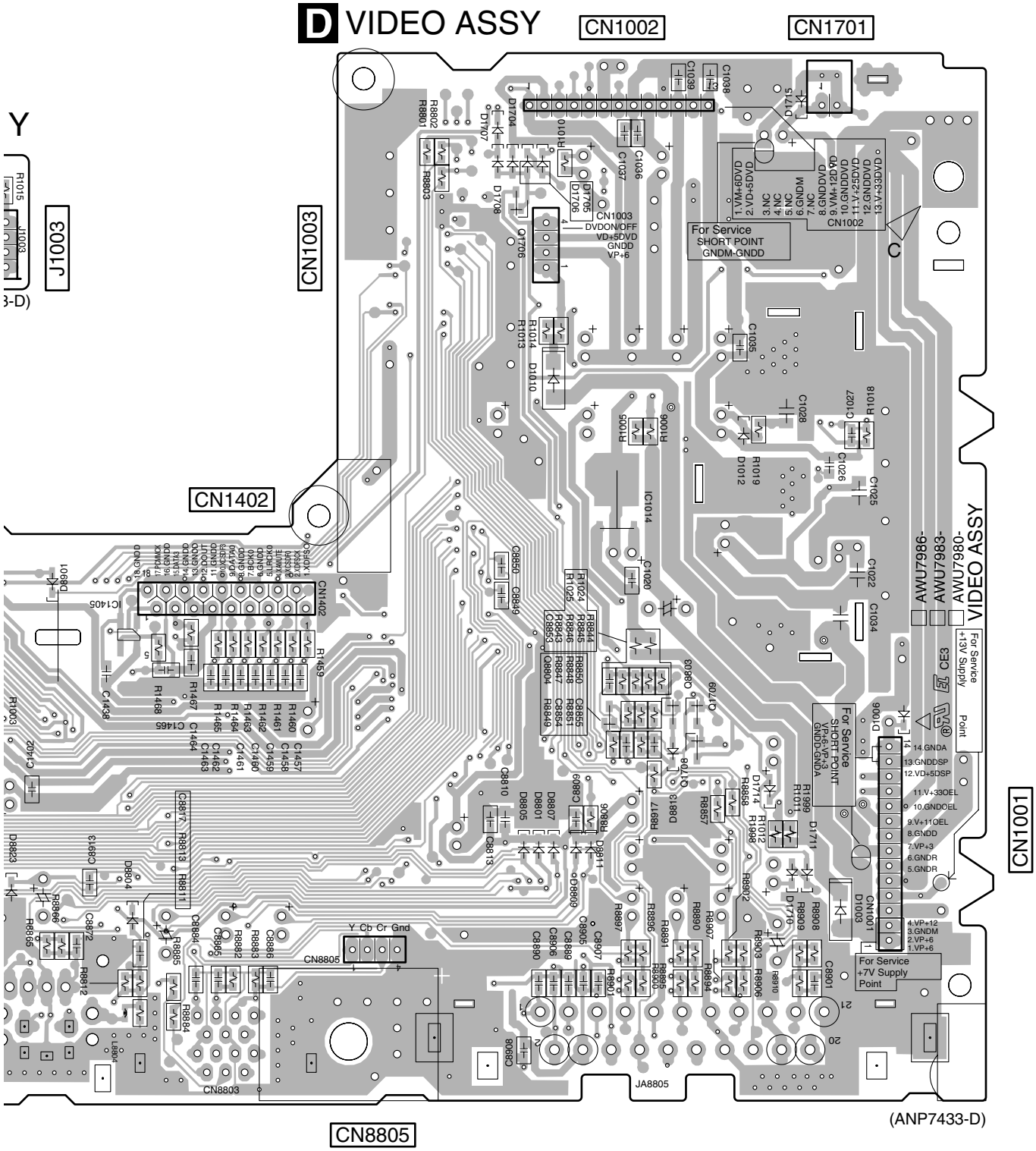
J1003

CN1403 CN1404

CN1401



IC1406 Q1710 Q1707 Q1704 Q1007 IC1

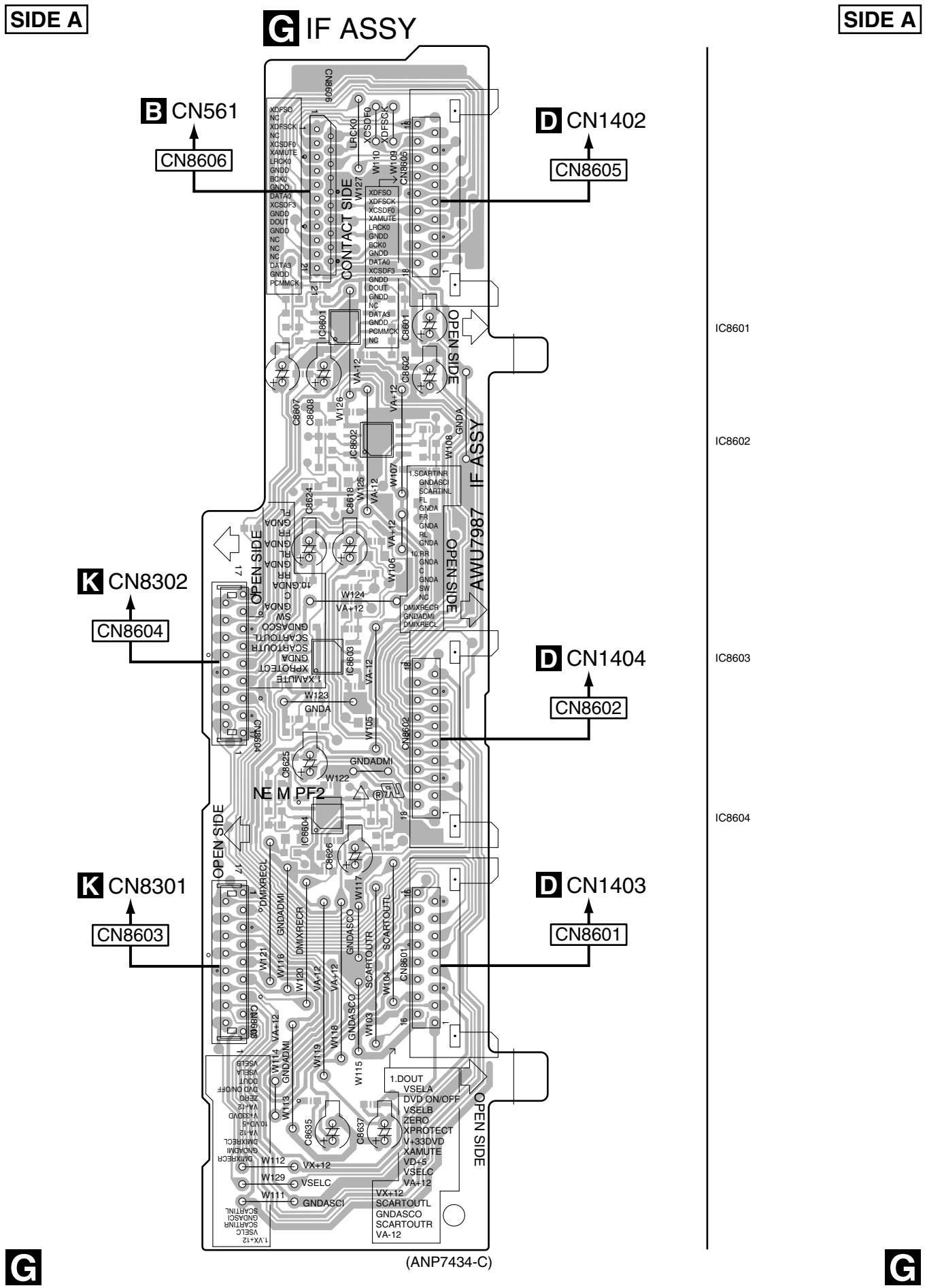


IC1405

Q1706

IC1014 Q8803 Q1709
Q8804 Q1708

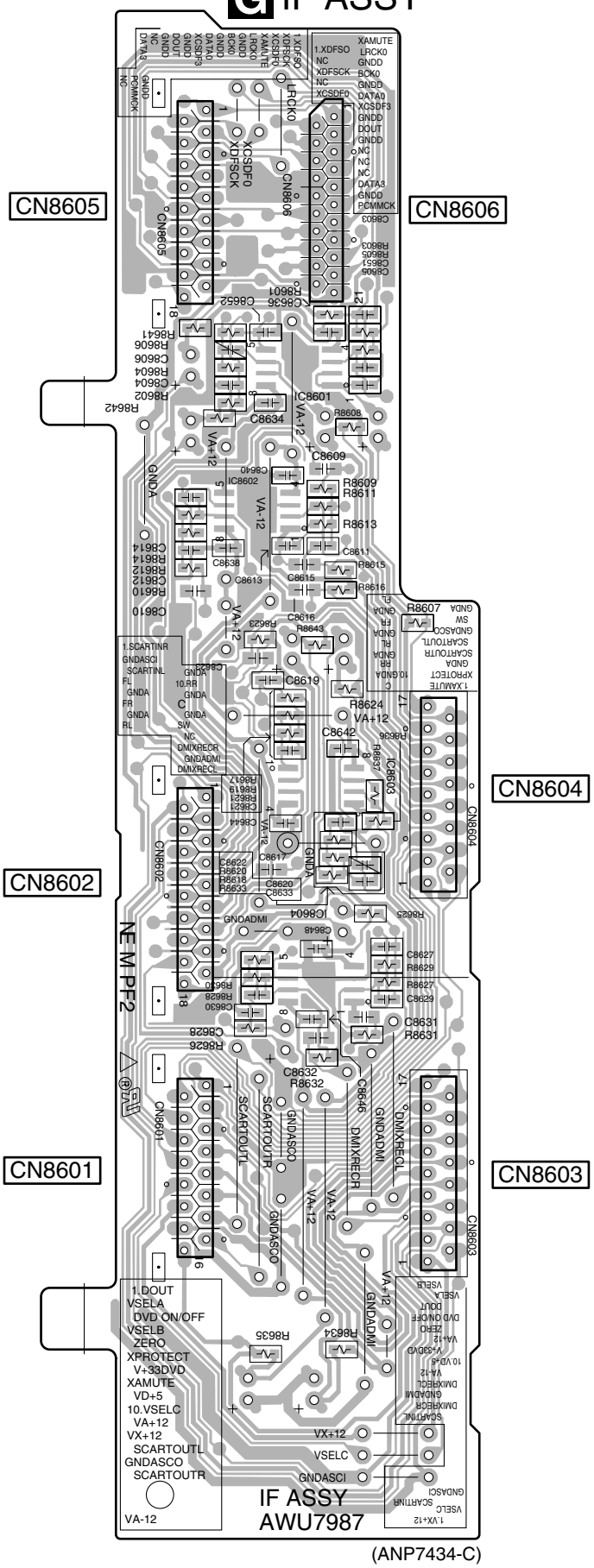
4.6 IF ASSY


SIDE A
G IF ASSY
SIDE A
B CN561
CN8606
D CN1402
CN8605
K CN8302
CN8604
D CN1404
CN8602
K CN8301
CN8603
D CN1403
CN8601
CONTACT SIDE
OPEN SIDE
IF ASSY
AWU7987
NEM PF2
IC8601
IC8602
IC8603
IC8604
1.DOUT
VSELA
DVD ON/OFF
VSELB
ZERO
XPROTECT
V+33DVD
XAMUTE
VD+5
VSELC
VA+12
VX+12
SCARTOUTL
GNDASCO
SCARTOUTR
VA-12
1.SCARTINR
GNDASCI
SCARTINL
FL
FR
RL
RR
C
SW
DMIXRECR
GNDADMI
DMIXRECL
(ANP7434-C)

SIDE B

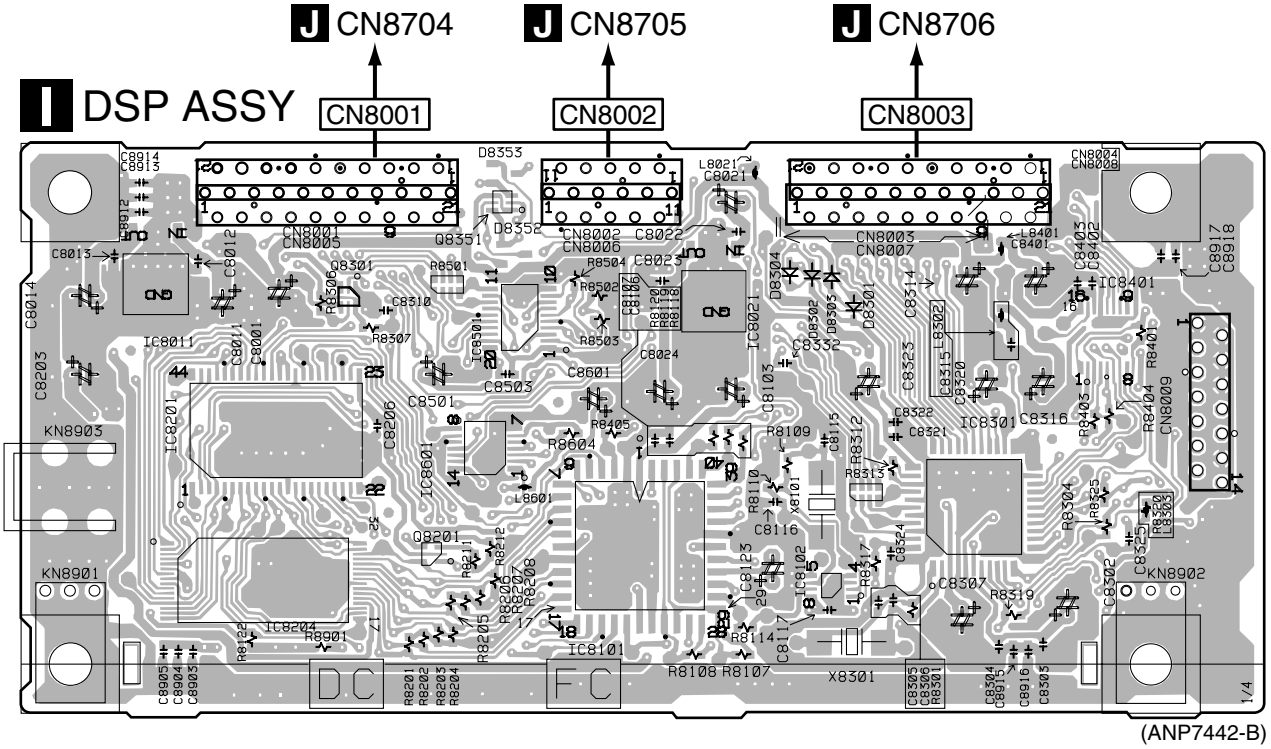
G IF ASSY

SIDE B



4.7 DSP ASSY

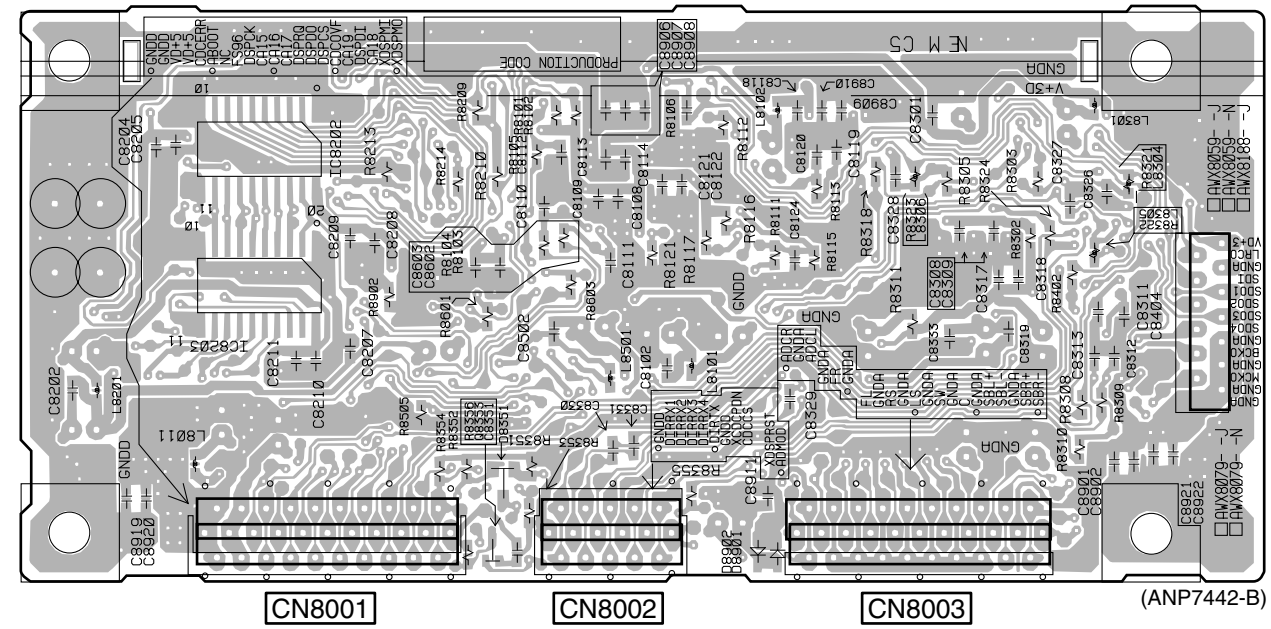
SIDE A **SIDE A**



IC8011 Q8301 Q8351 IC8101 IC8021 IC8102 IC8301 IC8401
IC8201 Q8201 IC8501
IC8204 IC8601

SIDE B **SIDE B**

I DSP ASSY



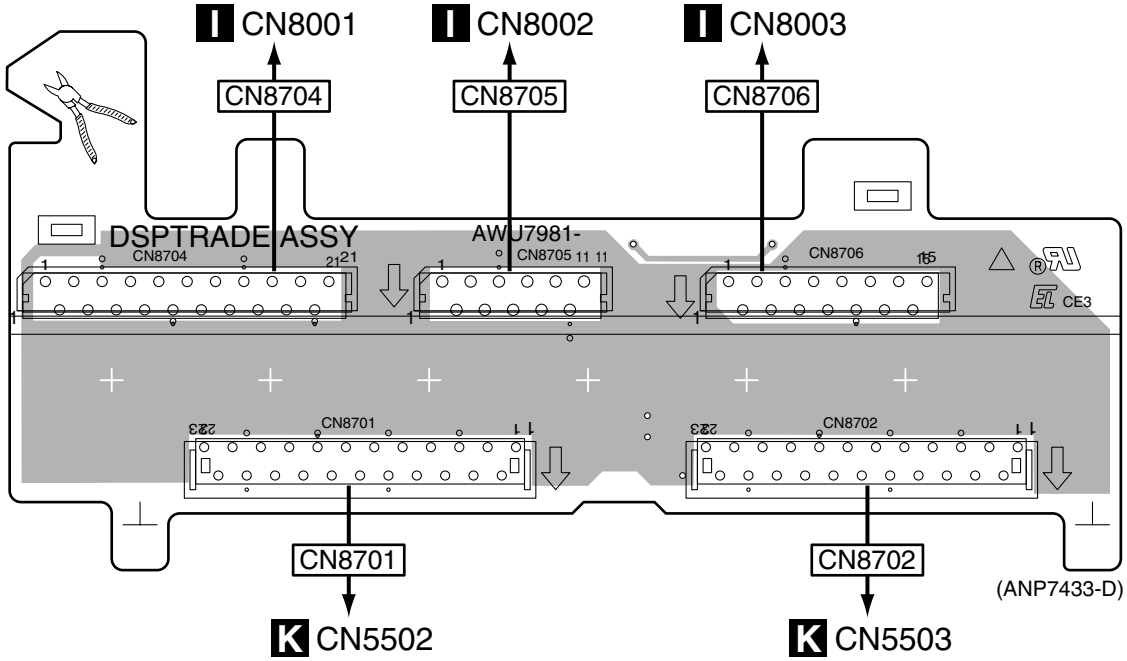
IC8202
IC8203
Q8353

4.8 DSP TRADE ASSY

SIDE A

SIDE A

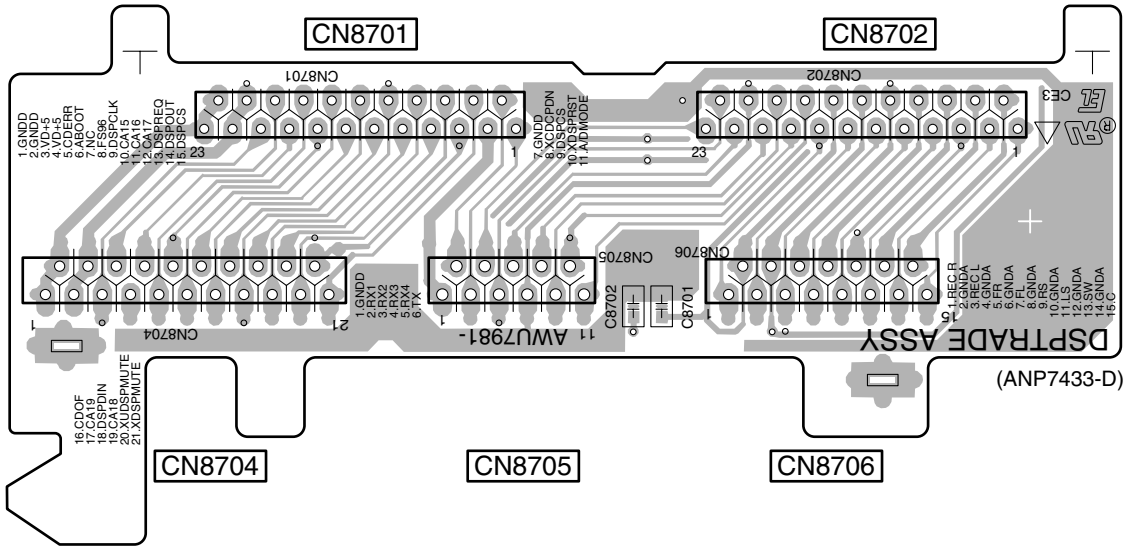
J DSP TRADE ASSY



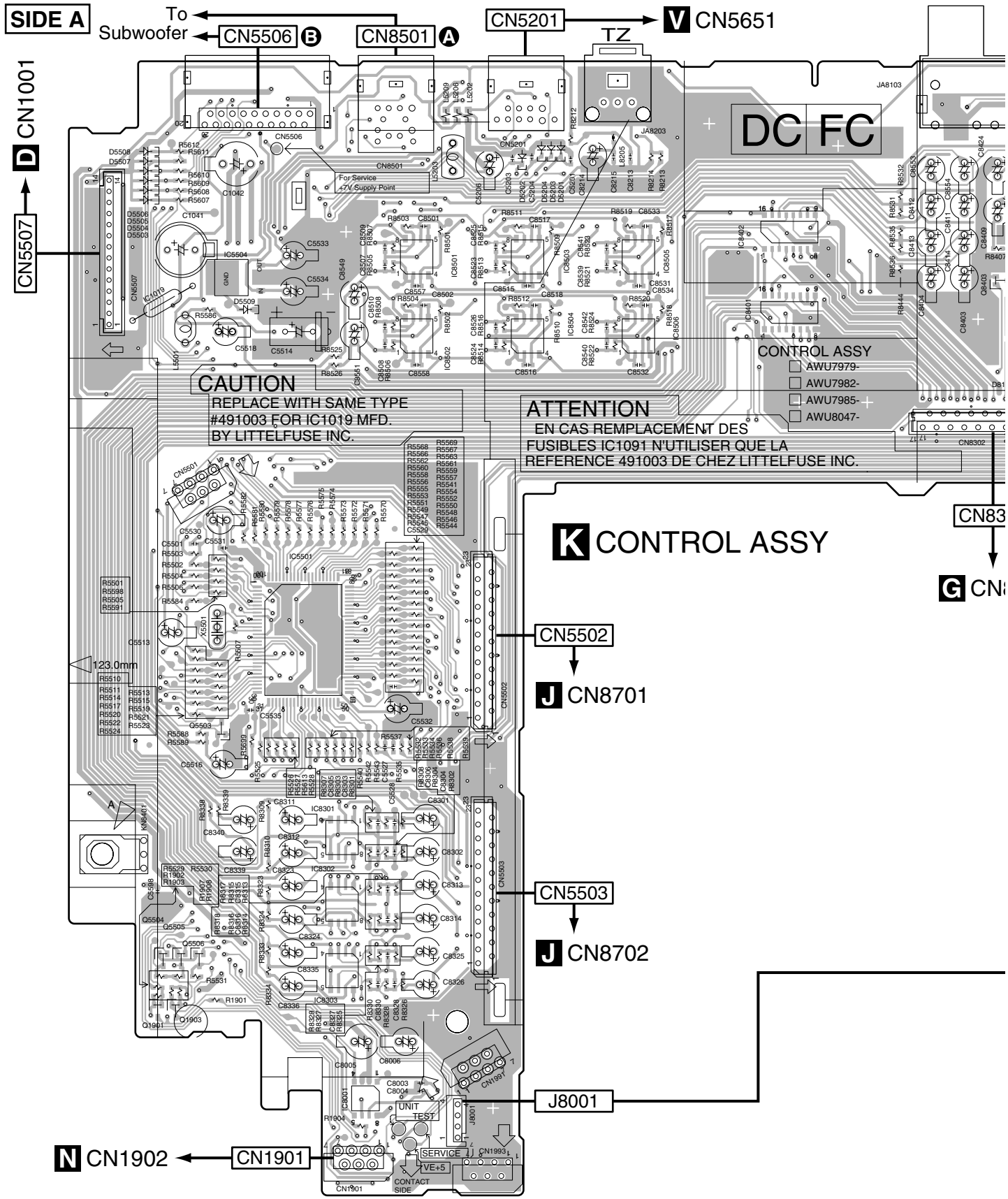
SIDE B

SIDE B

J DSP TRADE ASSY

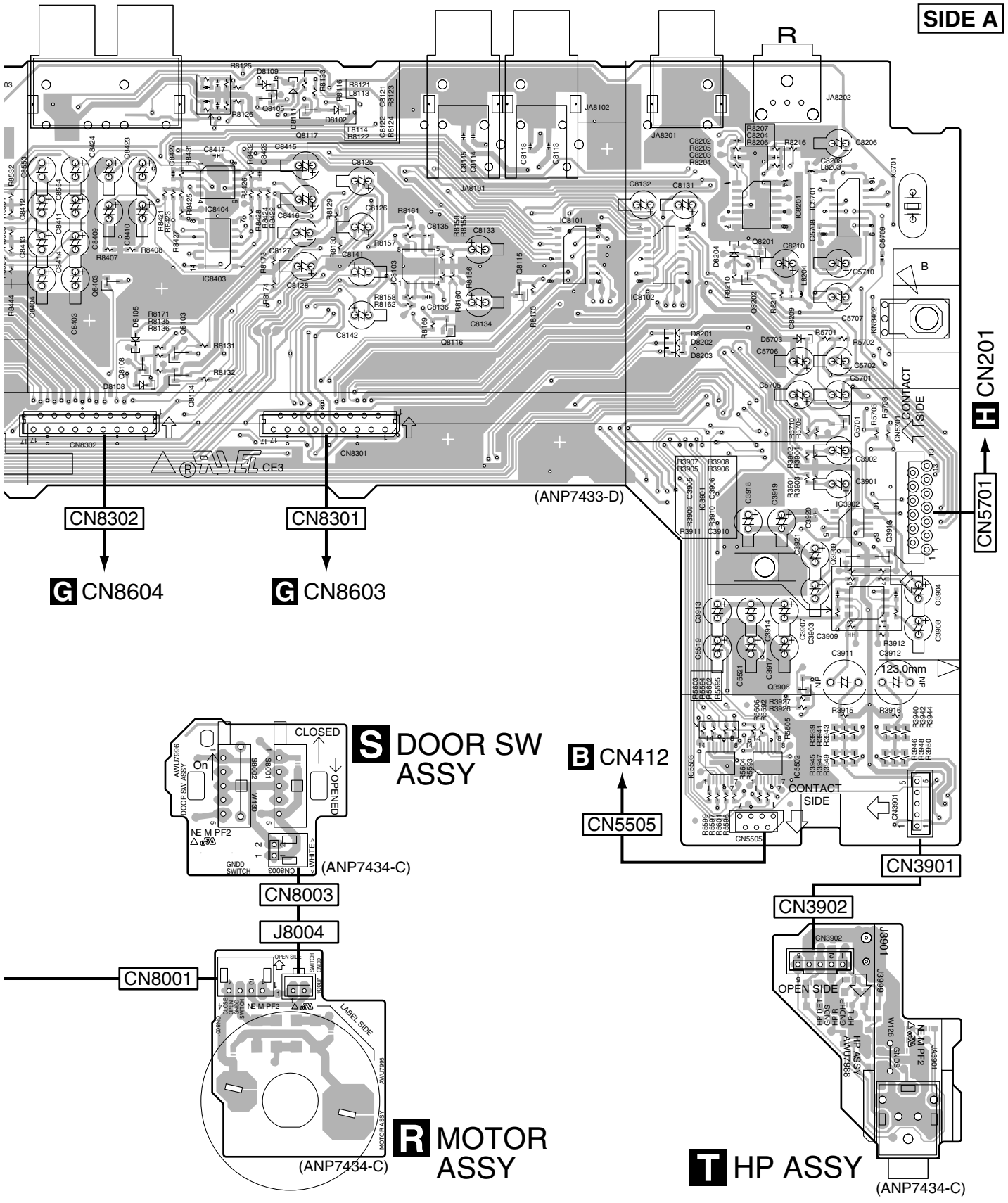


4.9 CONTROL, MOTOR, DOOR SW and HP ASSYS



IC1019 IC5504 IC5501 IC8501 IC8503 IC8505 IC8402
Q5503 IC8301 IC8502 IC8504 IC8506 IC8401
Q5504-Q5506 IC8302
Q1901 Q1903 IC8303
IC8001

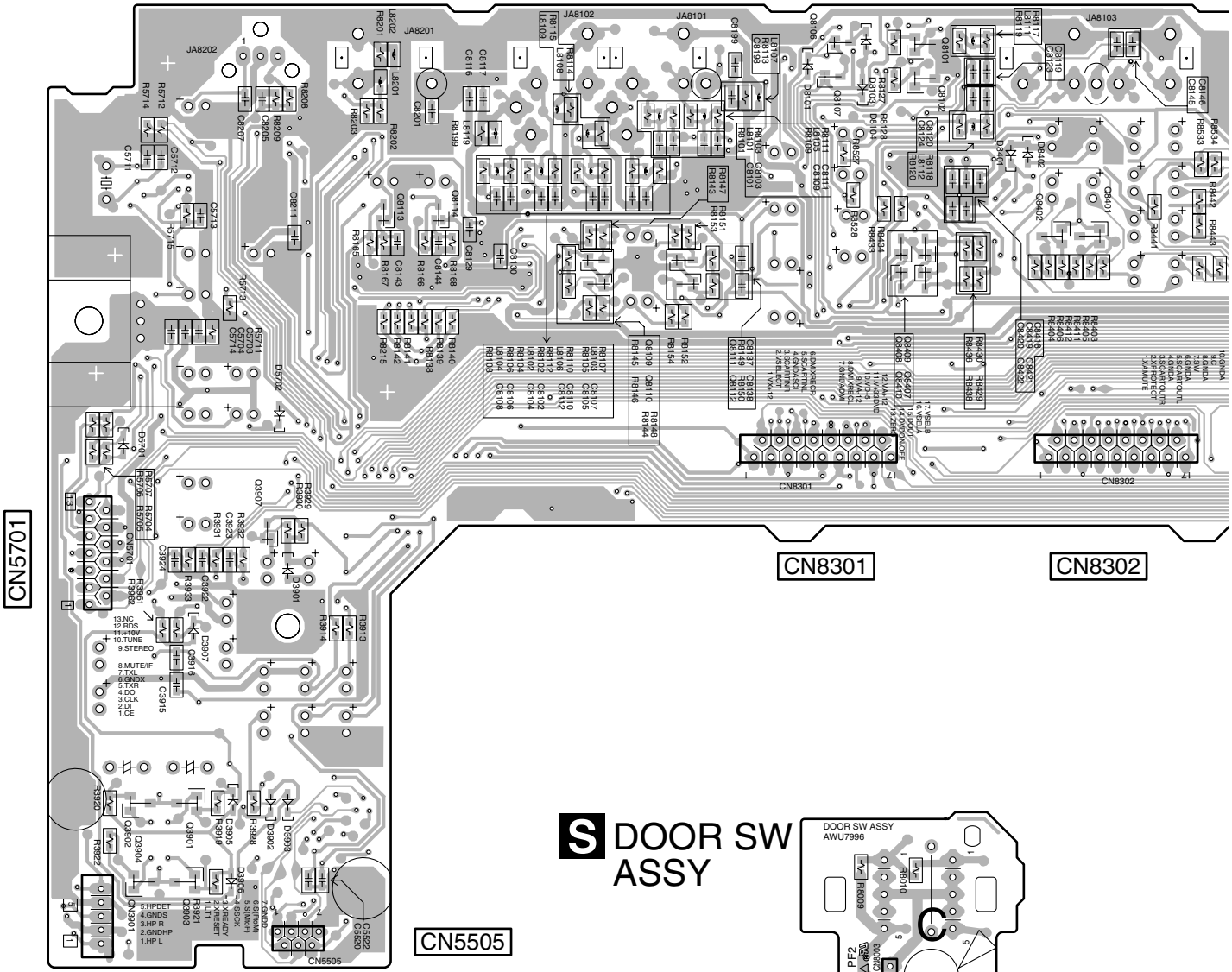
K



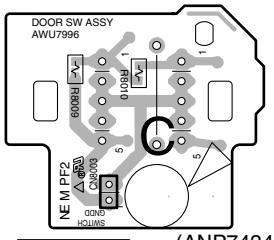
Q8108 IC8404 Q8105 Q8117 IC8103 Q8115 IC8101 IC8102 IC8201 IC5701
IC8403 Q8116 Q8201 Q5701
Q8103 Q8202 Q3906 IC3902
Q8104 IC5503 IC5502 IC3901 Q3909 Q3910

SIDE B

K CONTROL ASSY

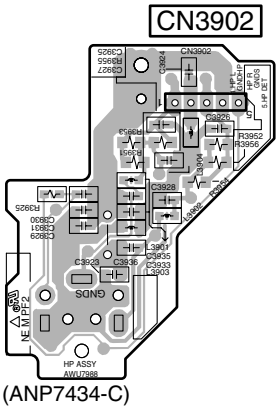


S DOOR SW ASSY



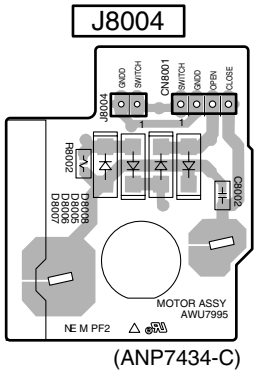
(ANP7434-C)

T HP ASSY



(ANP7434-C)

R MOTOR ASSY

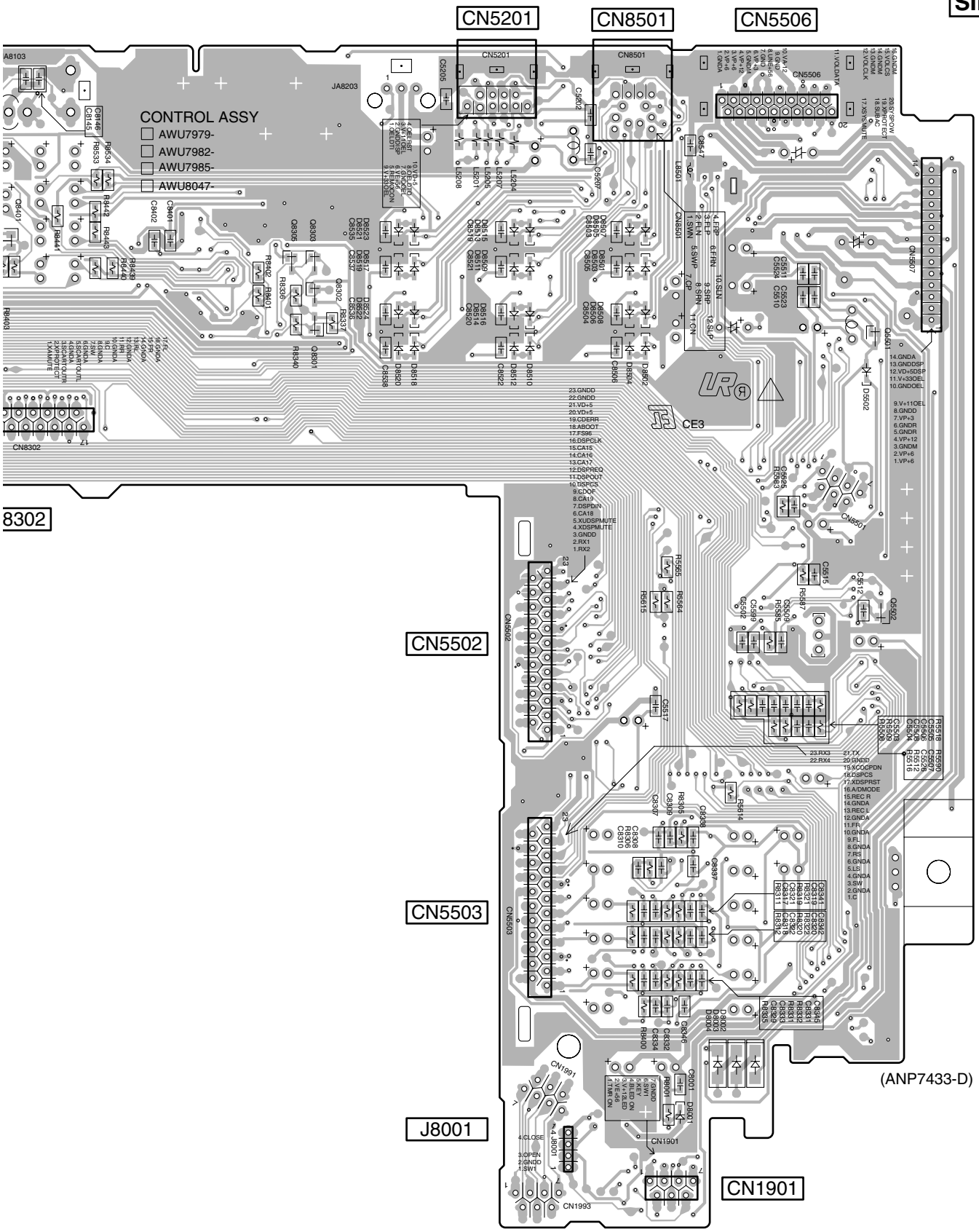


(ANP7434-C)

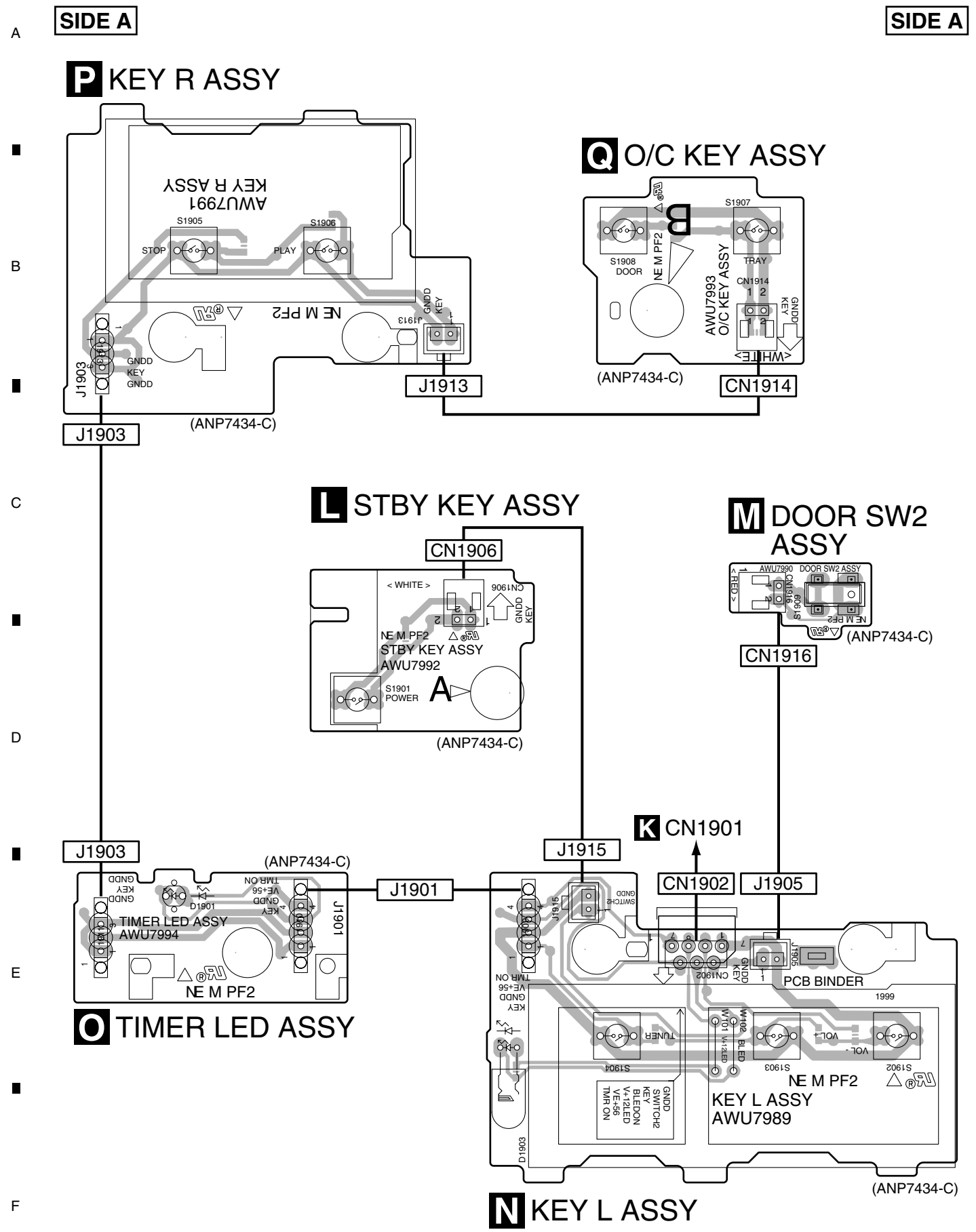
Q3902 Q3901 Q3907 Q8113 Q8114 Q8109 Q8111 Q8106 Q8101 Q8402 Q8401
Q3904 Q3903 Q8110 Q8112 Q8107 Q8102
Q8407-Q8410

K R S T

SIDE B


CN5201
CN8501
CN5506
CN5507
CONTROL ASSY
AWU7979-
AWU7982-
AWU7985-
AWU8047-
CN8302
CN5502
CN5503
J8001
CN1901
(ANP7433-D)

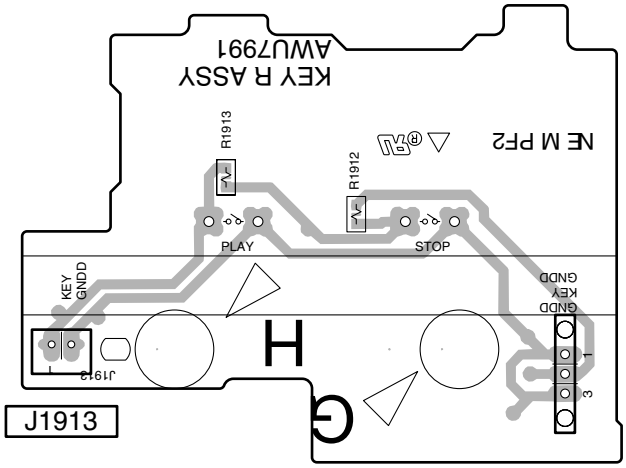
4.10 STBY KEY, DOOR SW2, KEY L, TIMER LED, KEY R and O/C KEY ASSYS



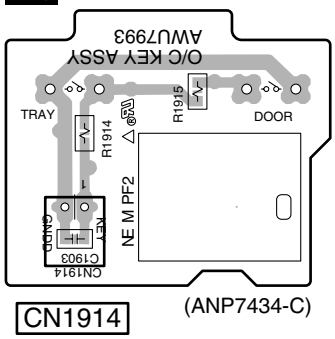
SIDE B

SIDE B

P KEY R ASSY

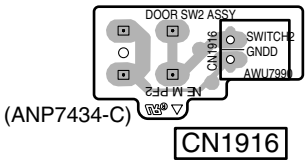


Q O/C KEY ASSY



CN1914

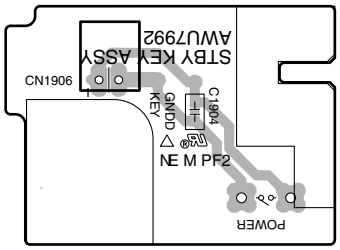
M DOOR SW2 ASSY



CN1916

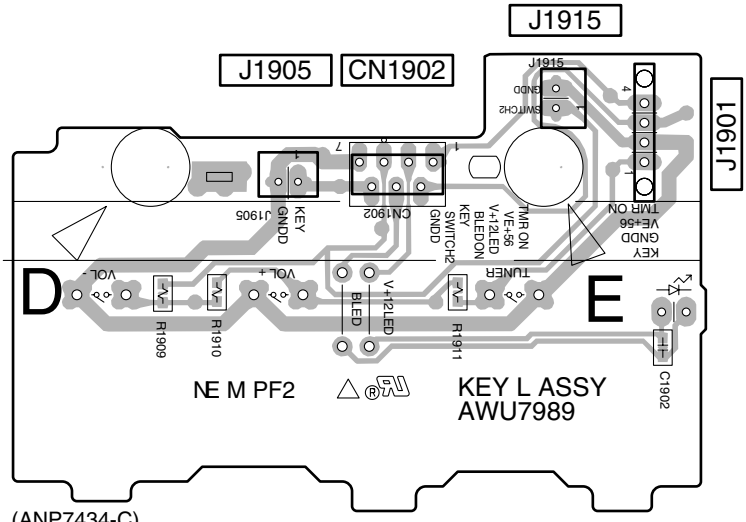
L STBY KEY ASSY

CN1906



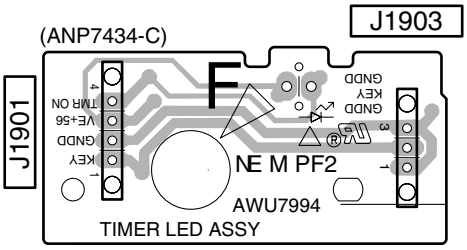
J1915

J1905 CN1902



N KEY L ASSY

J1903

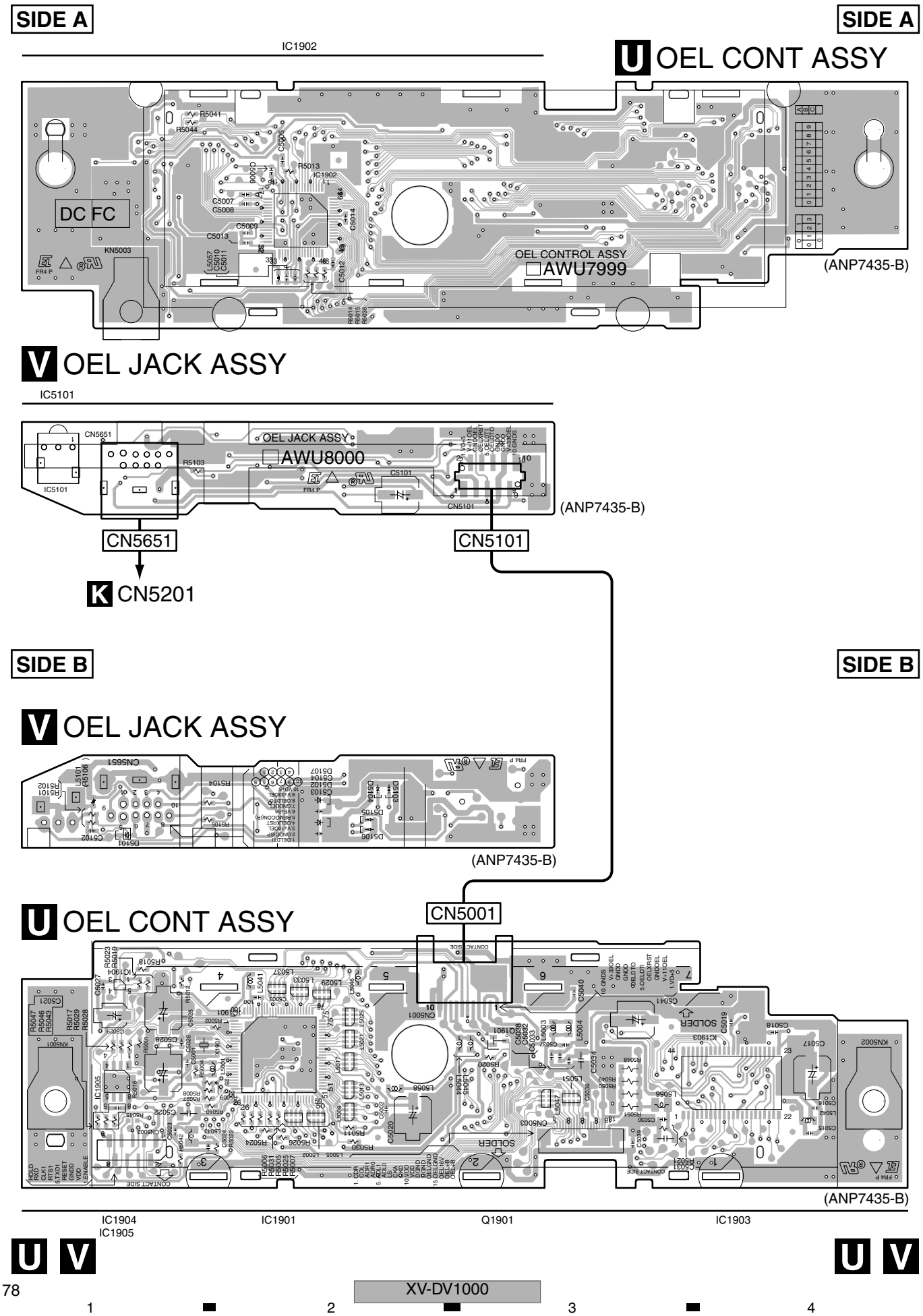


O TIMER LED ASSY

L M N O P Q

L M N O P Q

4.11 OEL CONT and OEL JACK ASSYS



5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 ····· RD1/4PU 5 6 1 J
47k Ω → 47 x 10^3 → 473 ····· RD1/4PU 4 7 3 J
0.5 Ω → R50 ····· RN2H R 5 0 K
1 Ω → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

• LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	XV-DV1000/ ZUCXJ	XV-DV1000/ ZVYXJ
NSP	1..LOADING MECHA ASSY	VWT1188	VWT1188
NSP	2..LOAB ASSY	VWG2279	VWG2279
	1..DVDM ASSY	AWX8156	AWX8156
	1..SACDB ASSY	AWX8157	AWX8157
	1..FM/AM TUNER MODULE	AXQ7228	AXQ7229
	1..DSP ASSY	AWX8188	AWX8188
NSP	1..DVD COMP ASSY	AWM7701	AWM7700
	2..VIDEO ASSY	AWU7983	AWU7980
	2..REG ASSY	AWU8046	AWU8046
	2..COMPONENT ASSY	AWU7984	Not used
	2..DSP TRADE ASSY	AWU7981	AWU7981
	2..CONTROL ASSY	AWU7982	AWU7979
NSP	1..DVD SUB ASSY	AWM7703	AWM7703
	2..IF ASSY	AWU7987	AWU7987
	2..STBY KEY ASSY	AWU7992	AWU7992
	2..DOOR SW2 ASSY	AWU7990	AWU7990
	2..KEY L ASSY	AWU7989	AWU7989
	2..TIMER LED ASSY	AWU7994	AWU7994
	2..KEY R ASSY	AWU7991	AWU7991
	2..O/C KEY ASSY	AWU7993	AWU7993
	2..MOTOR ASSY	AWU7995	AWU7995
	2..DOOR SW ASSY	AWU7996	AWU7996
	2..HP ASSY	AWU7988	AWU7988
NSP	1..DISPLAY ASSY	AWM7706	AWM7706
	2..OEL CONT ASSY	AWU7999	AWU7999
	2..OEL JACK ASSY	AWU8000	AWU8000

• CONTRAST OF PCB ASSEMBLIES

D VIDEO ASSY

AWU7983 and AWU7980 are constructed the same except for the following :

Mark	Symbol and Description	AWU7983	AWU7980
	IC8806	Not used	MM1505XN
	IC8807	Not used	MM1507XN
	Q8803, Q8805	Not used	2SA1576A
	Q8804, Q8806	Not used	2SC4081
	Q8810	UN5212	Not used
	D8813-D8817, D8901, D8902	Not used	1SS355
	D8826-D8828	1SS355	Not used
	L8810, L8811 CHIP BEAD	VTL1089	Not used
	C8853, C8855, C8856, C8858, C8859, C8862	Not used	CKSRYB104K25
	C8863	Not used	CKSRYB104K25
	C8860	Not used	CEAT100M50
	C8881	CEAT102M6R3	Not used
	C8882, C8883	CEAT471M6R3	Not used
	C8887, C8888	Not used	CCSRCH391J50
	C8891, C8894, C8897	Not used	CEAT101M10
	C8900	Not used	CEAT102M6R3
	C8903	Not used	CEAT470M16
	C8904-C8907	Not used	CCSRCH101J50
	R8843	Not used	RS1/16S682J
	R8844	Not used	RS1/16S152J
	R8845, R8846, R8853	Not used	RS1/16S122J
	R8847	Not used	RS1/16S821J
	R8848	Not used	RS1/16S561J
	R8849, R8854	Not used	RS1/16S472J
	R8850	Not used	RS1/16S822J
	R8851, R8855	Not used	RS1/16S563J
	R8852	Not used	RS1/16S223J
	R8856	Not used	RS1/16S68R0F
	R8857, R8858, R8888, R8889, R8894, R8895	Not used	RS1/16S0R0J
	R8900, R8901, R8906, R8907, R8910	Not used	RS1/16S0R0J
	R8876-R8881	RS1/16S1500F	Not used
	R8884, R8885	RS1/16S103J	Not used
	R8886, R8887	Not used	RS1/16S471J
	R8890, R8891, R8896, R8897, R8902, R8903	Not used	RS1/16S1500F
	R8908, R8909	Not used	RS1/16S1500F
	R8917	Not used	RS1/16S102J
	R8918, R8919	Not used	RS1/16S331J
	R8923	Not used	RS1/16S473J
	R8925	RS1/16S473J	Not used
	CN8805 KR CONNECTOR	B4B-PH-K-S	Not used
	JA8805 RGB CONNECTOR	Not used	VKB1157

K CONTROL ASSY

AWU7982 and AWU7979 are constructed the same except for the following :

Mark	Symbol and Description	AWU7982	AWU7979
	IC5701	Not used	BU1923F
	Q8103, Q8104	Not used	2SD2114K
	Q8108, Q8810	Not used	UN5112
	D8105, D8108, D8826-D8828	Not used	1SS355
	C5708	Not used	CCSRCH561J50
	C5709	Not used	CCSRCH271J50
	C5710, C8127, C8128	Not used	CEAT100M50
	C5711, C5712	Not used	CCSRCH270J50
	C5713	Not used	CKSRYB103K50
	R5508	RS1/16S333J	Not used
	R5509	RS1/16S393J	RS1/16S473J
	R5701, R5702	RS1/16S104J	RS1/16S682J
	R5712, R5713	RS1/16S103J	Not used
	R5714	RS1/16S473J	Not used
	R5715	Not used	RS1/16S101J
	R8131, R8132, R8135, R8136	Not used	RS1/16S222J
	R8171, R8925	Not used	RS1/16S473J
	R8173, R8174	Not used	RS1/16S104J
	X5701 CRYSTAL RESONATOR	Not used	ASS7004

A LOAB ASSY

SWITCHES AND RELAYS

Mark No.	Description	Part No.
S101		VSK1011

OTHERS

Mark No.	Description	Part No.
CN602	KR CONNECTOR	S2B-PH-K
CN601	KR CONNECTOR	S5B-PH-K
	PC BOARD LOAB	VNP1836

B DVDM ASSY

SEMICONDUCTORS

Mark No.	Description	Part No.
IC831		ADV7300AKST
IC261,IC302		BA4510F
IC251		BA6664FM
IC741,IC901		HY57V161610DTC-8
IC101		LA9704W
IC201		LC78652W
IC781		M2V64S40DTP-7
IC351		M56788AFP
IC751		M65776AFP
IC791		MM1561JF
IC601		PD6345A
IC701		PE5286A
IC902		PM0033A
IC481		SM8707HV
IC786		TC74VHC541FT
IC303,IC304,IC306		TC7SZU04F
IC211		TK15404M
IC603		VYW2060
Q210,Q932-Q934,Q936		2SA1576A
Q938,Q939		2SA1576A
Q241		DTC114EUA
Q101,Q102,Q106		HN1A01F
Q103,Q104		HN1B04FU
Q931		RN1911
Q601,Q941		RN4982
D302,D303		KV1470
D601		RB501V-40

COILS AND FILTERS

Mark No.	Description	Part No.
L304		LCYA1R2J2520
L3150,L4080,L4090,L4100,L4110	CHIP BEAD	VTL1074
L4120,L4130,L4880,L4910	CHIP BEAD	VTL1074
L4870	CHIP BEAD	VTL1079
L4830,L4890,L4900	CHIP BEAD	VTL1081
L4800,L481	CHIP BEAD	VTL1084

CAPACITORS

Mark No.	Description	Part No.
C101,C103 (47/6.3)		ACH7174
C474,C480,C481,C662		CCSRCH100D50
C121,C532		CCSRCH101J50
C314,C798		CCSRCH150J50
C100,C133		CCSRCH151J50
C120		CCSRCH181J50
C484,C485,C487,C491		CCSRCH220J50
C134,C324,C391,C392		CCSRCH331J50
C945,C946		CCSRCH331J50
C109		CCSRCH391J50
C297,C555		CCSRCH470J50
C241		CCSRCH560J50
C107,C360		CCSRCH681J50
C488,C490		CCSRCH820J50
C489		CCSRCH8R0D50
C117,C123,C128,C201,C233		CEV101M16
C254,C368,C369,C403,C405		CEV101M16
C411,C413,C414,C419		CEV101M16

Mark	No.	Description	Part No.
	C119,C205,C326,C421,C422		CEV221M4
	C424,C470,C472,C601,C623		CEV221M4
	C701,C702,C711,C745		CEV221M4
	C751,C752,C766,C781,C791		CEV221M4
	C793,C835,C891,C903,C908		CEV221M4
	C116,C127,C223,C224,C264		CKSQYB105K10
	C312,C415,C416,C477		CKSQYB105K10
	C794,C795		CKSQYB105K10
	C216,C313,C351,C531		CKSRYB102K50
	C533,C534		CKSRYB102K50
	C110,C113,C203,C220,C225		CKSRYB103K50
	C234,C261,C320-C322,C330		CKSRYB103K50
	C426,C619,C920		CKSRYB103K50
	C108,C111,C114,C115		CKSRYB104K16
	C212,C213,C227,C231		CKSRYB104K16
	C248-C251,C255,C263,C315		CKSRYB104K16
	C317		CKSRYB104K16
	C106		CKSRYB152K50
	C208		CKSRYB222K50
	C266		CKSRYB224K10
	C206,C214,C242,C357		CKSRYB472K50
	C105,C118,C122,C253,C256		CKSRYF104Z25
	C332,C353,C359,C365,C366		CKSRYF104Z25
	C609,C622,C631,C723,C755		CKSRYF104Z25
	C758,C761,C762,C767,C768		CKSRYF104Z25
	C836,C840,C848,C849		CKSRYF104Z25
	C895-C899,C902,C933,C939		CKSRYF104Z25
	C112,C125,C126,C130,C200		CKSRYF105Z10
	C202,C204,C215,C217		CKSRYF105Z10
	C221,C222,C226,C230,C232		CKSRYF105Z10
	C236,C258,C265,C299,C310		CKSRYF105Z10
	C319,C323,C328,C329,C412		CKSRYF105Z10
	C418,C423,C475,C476		CKSRYF105Z10
	C552-C554,C556,C602-C605		CKSRYF105Z10
	C607,C608,C610,C613-C616		CKSRYF105Z10
	C618,C657,C658,C704		CKSRYF105Z10
	C706-C710,C712-C716		CKSRYF105Z10
	C718-C722,C724-C732,C735		CKSRYF105Z10
	C741-C744,C746,C747		CKSRYF105Z10
	C753,C754,C756,C757		CKSRYF105Z10
	C759,C760,C763-C765		CKSRYF105Z10
	C769-C780,C782-C790,C792		CKSRYF105Z10
	C797,C832-C834,C837-C839		CKSRYF105Z10
	C842-C846,C893,C900,C901		CKSRYF105Z10
	C904-C907,C909-C918		CKSRYF105Z10
	C921-C924,C927-C930		CKSRYF105Z10

RESISTORS

R831,R832		RAB4C0R0J
R924-R927		RAB4C101J
R631,R713		RAB4C103J
R111		RAB4C220J
R113,R534,R537,R704,R705		RAB4C470J
R138		RS1/10S0R0J
R341		RS1/10S101J
R141-R148		RS1/10S220J
R364,R369,R373,R375		RS1/16S1003F
R123		RS1/16S1202F
R843,R855		RS1/16S1501F
R358,R361		RS1/16S1503F
R755		RS1/16S1801F
R936,R944,R950,R966,R973		RS1/16S3000F
R978		RS1/16S3000F
R754		RS1/16S3001F
R751		RS1/16S3301F
R132		RS1/16S4702F
R357,R362,R363,R368,R372		RS1/16S6802F
R374		RS1/16S6802F
R257 (1.0 ohm)		VCN1127
R258,R259 (2.2 ohm)		VCN1128
Other Resistors		RS1/16S###J

OTHERS

CN104	4P FFC CONNECTOR	DKN1223
CN401	PH CONNECTOR (SMT)	S13B-PH-SM3
CN103	PH CONNECTOR (SMT)	S5B-PH-SM3
CN561	21P FFC CONNECTOR	VKN1313
CN912	30P FFC CONNECTOR	VKN1322
CN412	7P FFC CONNECTOR	VKN1411
CN513	20P FFC CONNECTOR	VKN1460
CN101	FFC CONNECTOR	VKN1787
CN542	40P FFC CONNECTOR	VKN1794
CN105	12P FFC CONNECTOR	VKN1795
X481	CRYSTAL RESONATOR (27.000MHz)	VSS1159
X601	CERAMIC RESONATOR (16.5MHz)	VSS1160

C SACDB ASSY

SEMICONDUCTORS

⚠	IC906	BA25BC0FP
	IC901	CXD2753R
	IC902	HY57V161610DTC-8
⚠	IC808	MM1561JF
	IC904	TC7SH00FU
	IC806	TC7SH04FU
	IC991	TC7SHU04F
	IC905	TC7WH74FU
	IC801	XCA56367PV150

COILS AND FILTERS

L801		LCYA1R0J2520
L992	CHIP BEAD	VTL1080

CAPACITORS

C903		CCSRCH100D50
C950		CCSRCH102J50
C931		CCSRCH470J50
C801,C829,C839,C840,C844		CEJQ221M6R3
C901,C909,C911,C922,C926		CEJQ221M6R3
C944,C951		CEJQ221M6R3
C828,C908,C916		CKSRYB103K50
C827		CKSRYB473K25
C807-C812,C815,C816		CKSRYF105Z10
C819-C824,C826,C830-C837		CKSRYF105Z10
C841,C843,C902,C905-C907		CKSRYF105Z10
C912-C915,C917-C921		CKSRYF105Z10
C923-C925,C927-C930,C934		CKSRYF105Z10
C937,C938,C940,C943		CKSRYF105Z10
C945-C947,C955,C956,C991		CKSRYF105Z10

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/16S###J

OTHERS

CN999	FFC CONNECTOR	5597-21CPB
CN801	20P FFC CONNECTOR	VKN1460
CN901	40P FFC CONNECTOR	VKN1794

D VIDEO ASSY

SEMICONDUCTORS

⚠	IC1014	BA033FP
⚠	IC1012,IC1013	BA05FP
⚠	IC1010	BA06SFP
⚠	IC1011,IC1018	BA12FP
	IC1401-IC1404	DSD1702EG
	IC8801	LA73054
	IC8810	MM1505XN
	IC8808,IC8809	MM1507XN
⚠	IC1017	PQ025EH01ZP
⚠	IC1016	S-8540B00FN-IMA
	IC8802-IC8805	TC74HC4052AFT
	IC1405,IC1406	TC7SHU04F
	Q1001,Q8801	2SA1576A
⚠	Q8807	2SA1576A
	Q1005,Q8802	2SC4081
⚠	Q1007	2SD1858X
⚠	Q1006	CPH6312
	Q1707	UN5112
	Q1704,Q1706,Q1708-Q1710	UN5212
	Q8808-Q8810	UN5212
	D1003,D1010,D1011,D1716-D1719	1SR154-400
	D1004,D1007,D1704-D1715	1SS355
	D8801-D8812,D8818-D8828	1SS355
	D1006	HZU2.0B
	D1005	RB051L-40
	D1001,D1012	UDZS5.6B

COILS AND FILTERS

	L1001-L1003 SMD POWER INDUCTOR	ATL7003
	L1468 CHIP BEAD	VTL1080
	L1412,L1424,L8810,L8811 CHIP BEAD	VTL1089

CAPACITORS

	C1031	CCSRCH220J50
	C8834-C8836	CCSRCH221J50
	C1014	CEAL100M16
	C1702	CEAL101M16
	C1004,C1012	CEAL220M16
	C1003	CEAL470M16
	C1002,C1011,C1021	CEAT100M50
	C1009,C8801	CEAT101M10
	C1006,C1024,C1030,C1033	CEAT101M16
	C8864,C8865,C8869,C8873,C8881	CEAT102M6R3
	C1029	CEAT221M10
	C1403,C1405,C1408,C1414,C1420	CEAT331M6R3
	C1426	CEAT331M6R3
	C8811,C8882,C8883	CEAT471M6R3
	C8847	CEJQ100M50
	C1026,C1438,C8810	CKSQYB105K10
	C1005,C1035,C1039,C1401,C1402	CKSRYB103K50
	C1404,C1406,C1410,C1412,C1416	CKSRYB103K50
	C1418,C1422,C1424,C1433-C1436	CKSRYB103K50
	C8813,C8833,C8838,C8841,C8842	CKSRYB103K50
	C8844,C8848,C8852,C8902	CKSRYB103K50
	C1001,C1007,C1008,C1010,C1013	CKSRYB104K25
	C1020,C1027,C1032,C1437	CKSRYB104K25
	C8802-C8809,C8812,C8817,C8824	CKSRYB104K25
	C8830,C8870,C8874,C8910-C8918	CKSRYB104K25
	C1421	CKSRYB105K10
	C1022,C1025,C1034	CKSYB475K16
	C1023,C1028 (10u)	DCH1148

RESISTORS

	R1017 (0.068 ohm, 1/4W)	ACN7113
	R1019 (0.1 ohm, 1/10W)	ACN7114
	R1024,R1025	RS1/10S0R0J
	R1007	RS1/10S1R0J
	R1021	RS1/16S1002F
	R1023	RS1/16S1003F
	R8807-R8810,R8812-R8817	RS1/16S1500F
	R8819-R8824,R8826,R8827	RS1/16S1500F
	R8859-R8870,R8876-R8881	RS1/16S1500F
	R1022	RS1/16S2203F
	Other Resistors	RS1/16S###J

OTHERS

CN1401	21P FFC CONNECTOR	52045-2145
JA8803	3P PIN JACK	AKB7155
JA8802	4P MINI DIN SOCKET	AKP7116
JA8806	3P S TERMINAL	AKP7173
CN1001	KR CONNECTOR	B14B-PH-K
CN1003,CN8805	KR CONNECTOR	B4B-PH-K
CN1002	KR CONNECTOR	S13B-PH-K
CN1701	KR CONNECTOR	S2B-PH-K
	PCB BINDER	VEF1040
JA8801	2P PIN JACK	VKB1123
CN8802	7P FFC CONNECTOR	VKN1267
CN1403	B TO B CONNECTOR 16P	VKN1401
CN1402,CN1404	B TO B CONNECTOR 18P	VKN1402
CN8801	30P FFC CONNECTOR	VKN1434
KN1001	EARTH METAL FITTING	VNF1084

E REG ASSY

SEMICONDUCTORS

⚠	IC1015	BA05ST

CAPACITORS

	C1015	CEAT101M10
	C1018,C1019	CKSRYB103K50

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

J1003	CONNECTOR ASSY	PF04PG-Q20

F COMPONENT ASSY

OTHERS

Mark No.	Description	Part No.
JA8807	3P PIN JACK	AKB7125
J8806	CONNECTOR ASSY	PF04PG-B15

G IF ASSY

SEMICONDUCTORS

IC8601-IC8604	NJM4560M

CAPACITORS

C8651,C8652	CCSRCH151J50
C8603,C8604,C8613,C8614,C8621	CCSRCH271J50
C8629,C8630	CCSRCH271J50
C8601,C8602,C8607,C8608,C8618	CEAT100M50
C8624-C8626	CEAT100M50
C8635,C8637	CEAT470M16
C8609,C8610,C8615-C8617,C8623	CKSQYB225K10
C8631,C8632	CKSQYB225K10
C8605,C8606	CKSRYB102K50
C8634,C8636,C8638,C8640,C8642	CKSRYB104K25
C8644,C8646,C8648	CKSRYB104K25
C8633	CKSRYB223K25
C8611,C8612,C8619,C8627,C8628	CKSRYB272K50
C8620,C8622	CKSRYB473K25

RESISTORS

All Resistors	RS1/16S###J

OTHERS

CN8603,CN8604 17P SOCKET	AKP7072
CN8606 21P FFC CONNECTOR	VKN1197
CN8601 B TO B CONNECTOR 16P	VKN1388
CN8602,CN8605 B TO B CONNECTOR 18P	VKN1389

H FM/AM TUNER MODULE (AXQ7228)

SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201,Q204,Q205	2SC2412K
Q202	DTA124ES
Q203	DTC124EK
D201	1SS133
D202	MTZJ5.1C

COILS AND FILTERS

L201 FM DETECTOR COIL	ATE7003
F202 FM CERAMIC FILTER	ATF-107
F201 FM CERAMIC FILTER	ATF-119
F203 AM CERAMIC FILTER	ATF1155

CAPACITORS

C206	CCSRCH100D50
C212,C213,C226,C233-C235	CCSRCH101J50
C240	CCSRCH101J50
C231,C232	CCSRCH150J50
C223	CEAT100M50
C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50
C243	CEAT330M16
C228	CEAT3R3M50
C237	CEAT470M10
C211	CEJA1R0M50
C210	CEJA470M16
C204,C238,C602	CKSRYB102K50
C101,C102,C208,C220,C239	CKSRYB103K50
C242,C601	CKSRYB103K50
C216,C217	CKSRYB123K50
C225	CKSRYB153K50
C201,C205,C209,C214,C230	CKSRYB223K50
C236,C603	CKSRYB223K50
C221	CKSRYB224K10
C202,C222	CKSRYB473K16
C215	CKSRYB681K50

RESISTORS

R211	RD1/4PU221J
R221	RD1/4PU222J
R233	RD1/4PU391J
R243	RS1/10S0R0J
R103	RS1/10S331J
R104	RS1/10S391J
Other Resistors	RS1/16S###J

OTHERS

CN201 13P FFC CONNECTOR	52044-1345
BN201 4P ANTENNA TERMINAL	AKA7003
SHIELD CASE T	ANK7072
SHIELD CASE B	ANK7073
X201 CRYSTAL RESONATOR (7.2MHz)	ASS1093

H FM/AM TUNER MODULE (AXQ7229)

SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201,Q204,Q205,Q601	2SC2412K
Q202	DTA124ES
Q203	DTC124EK
D201	1SS133
D202	MTZJ5.1C
D101	UDZS6.8B

COILS AND FILTERS

L201 FM DETECTOR COIL	ATE7003
F202 FM CERAMIC FILTER	ATF-107
F201 FM CERAMIC FILTER	ATF-119
F203 AM CERAMIC FILTER	ATF1155
F601 ANTIBIRDY FILTER	ATF7025
L601	LCTA270J2520

CAPACITORS

C605	CCSQCH680J50
C212,C213,C226,C233-C235	CCSRCH101J50
C240,C614	CCSRCH101J50
C206	CCSRCH120J50
C231,C232	CCSRCH150J50
C223	CEAT100M50
C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50
C243	CEAT330M16

Mark No.	Description	Part No.
C228		CEAT3R3M50
C237		CEAT470M10
C211		CEJA1R0M50
C210		CEJA470M16
C103,C104,C204,C238		CKSRYB102K50
C102,C208,C216,C217,C220		CKSRYB103K50
C239,C242,C604,C615		CKSRYB103K50
C225		CKSRYB153K50
C607,C608		CKSRYB182K50
C201,C205,C214,C230,C236		CKSRYB223K50
C244		CKSRYB223K50
C221		CKSRYB224K10
C603		CKSRYB392K50
C215		CKSRYB471K50
C202,C222		CKSRYB473K16
C606		CKSRYB561K50

RESISTORS

R211		RD1/4PU221J
R221		RD1/4PU222J
R233		RD1/4PU391J
R103,R104		RS1/10S221J
Other Resistors		RS1/16S###J

OTHERS

CN201	13P FFC CONNECTOR	52044-1345
BN201		AKA7002
	2P ANTENNA TERMINAL WITH PAL	
	SHIELD CASE T	ANK7072
	SHIELD CASE B	ANK7073
X201	CRYSTAL RESONATOR (7.2MHz)	ASS1093

I DSP ASSY

SEMICONDUCTORS

	IC8301	AK4586VQ
	IC8101	CS493292
⚠	IC8021	NJM2391DL1-25
⚠	IC8011	NJM2391DL1-33
	IC8201	PD8104A
	IC8501	TC74LVX244FT
	IC8202,IC8203	TC74VHC574F
	IC8601	TC74VHCT08AFT
	IC8102	TC7WU04FU
	Q8351	RN2903
	Q8301	UMD2N
	Q8353	UN5212
	D8301-D8304	1SS355
	D8353	DAN202K
	D8351,D8352	DAP202K

COILS AND FILTERS

L8011,L8021,L8101		ATL7002
	CHIP FERRITE BEAD	
L8102,L8201,L8301,L8302,L8501		QTL1013
	CHIP SOLID INDUCTOR	
L8601	CHIP SOLID INDUCTOR	QTL1013
L8305	CHIP BEAD	VTL1089

CAPACITORS

C8305,C8306		CCSRCH120J50
C8117		CCSRCH271J50
C8107,C8109,C8113,C8120,C8122		CCSRCH471J50
C8205,C8206,C8209,C8210,C8308		CCSRCH471J50
C8318,C8503,C8603		CCSRCH471J50
C8115,C8116		CCSRCH6R0D50
C8302,C8501,C8601		CEAL100M16
C8001,C8014,C8024,C8103,C8307		CEAL101M10
C8316,C8323		CEAL101M10
C8320		CEAL220M6R3
C8123		CEAL2R2M50
C8011,C8021		CEAL4R7M16
C8906		CKSRYB102K50
C8102,C8106,C8108,C8114		CKSRYB103K50
C8118,C8119,C8121,C8124,C8202		CKSRYB103K50
C8204,C8207,C8208,C8211,C8309		CKSRYB103K50
C8317,C8324,C8502,C8602,C8920		CKSRYB103K50
C8319,C8329-C8332,C8903,C8907		CKSRYB104K25
C8911		CKSRYB104K25
C8301,C8304,C8321		CKSRYB473K25

RESISTORS

R8313,R8501		RAB4C101J
R8312		RS1/16S1802F
Other Resistors		RS1/16S###J

OTHERS

CN8002	11P SOCKET	AKP7069
CN8003	15P SOCKET	AKP7071
CN8001	21P SOCKET	AKP7074
X8301	CRYSTAL RESONATOR (12.288MHZ)	ASS7046
8903	SCREW TERMINAL	VNE1948
KN8901,KN8902		VNF1084
	EARTH METAL FITTING	
X8101	CRYSTAL RESONATOR (27MHz)	VSS1172

J DSP TRADE ASSY

CAPACITORS

C8701,C8702		CKSRYB104K25

OTHERS

CN8705	11P PLUG	AKP7058
CN8706	15P PLUG	AKP7060
CN8704	21P PLUG	AKP7063
CN8701,CN8702	23P SOCKET	AKP7178
	PCB BINDER	VEF1040

K CONTROL ASSY

SEMICONDUCTORS

⚠	IC1019 (3A)	AEK7050
	IC8103,IC8301-IC8303,IC8404	BA4558F-HT
	IC8501-IC8506	BA4558F-HT
	IC8001	BA6417F
	IC8101,IC8102	BU4051BCF
	IC8401,IC8402	BU4053BCF
	IC8403	BU4066BCF
	IC3902	LC75344M
	IC3901	NJM4560M
	IC5504	NJM7805DL1A
	IC5501	PDC099A
	IC8201	TC74HCU04AF

Mark	No.	Description	Part No.
	IC5502,IC5503		TC74VHCT08AFT
	Q3906,Q8114		2SA1576A
	Q1901,Q1903,Q3907,Q5501,Q5503		2SC4081
⚠	Q5701		2SC4081
	Q8109-Q8113		2SC4081
	Q3901-Q3904,Q3909,Q3910		2SD2114K
	Q8101,Q8102,Q8401,Q8402		2SD2114K
	Q5504-Q5506,Q8105,Q8115,Q8116		UN5112
	Q8301,Q8303,Q8403,Q8407,Q8409		UN5112
	Q8202		UN511L
	Q5502,Q8106,Q8107,Q8201,Q8302		UN5212
	Q8305,Q8408,Q8410		UN5212
	D8002-D8004		1SR154-400
	D3902,D3903,D3905-D3907,D5502		1SS355
	D5509,D5701,D5702,D8103,D8104		1SS355
	D8109,D8111,D8201-D8204		1SS355
	D3901,D5703		UDZS11B
	D8001		UDZS3.9B
	D8401,D8402		UDZS6.8B
	D5201-D5204,D5503-D5508		UDZS8.2B

COILS AND FILTERS

	L5501		LFEA220J
	L8201,L8203-L8205	CHIP BEAD	VTL1076

CAPACITORS

	C5514		ACH1246
	C8204		CCSRCH100D50
	C3909,C3910,C5201,C5204,C5502		CCSRCH101J50
	C5508,C5515,C8101-C8112		CCSRCH101J50
	C8119-C8124		CCSRCH101J50
	C3905,C3906,C8203		CCSRCH470J50
	C8321,C8322		CCSRCH471J50
	C8309,C8310		CCSRCH680J50
	C8333		CCSRCH821J50
	C3901-C3904,C3907,C3908		CEAT100M50
	C3918,C3919,C5513,C5533,C5534		CEAT100M50
	C5701,C5702,C5706,C8133,C8134		CEAT100M50
	C8141,C8142,C8301,C8302		CEAT100M50
	C8311-C8314,C8323-C8326		CEAT100M50
	C8335,C8336,C8403,C8404		CEAT100M50
	C8409-C8414,C8423,C8424		CEAT100M50
	C8553,C8554		CEAT100M50
	C5206,C5519,C5521,C5530,C5532		CEAT101M10
	C8006,C8131,C8132,C8206,C8210		CEAT101M10
	C8214		CEAT101M10
	C8549,C8551		CEAT101M16
	C5516		CEAT1R0M50
	C3917		CEAT220M50
	C5518		CEAT221M6R3
	C1041		CEAT222M10
	C8005		CEAT331M10
	C8125,C8126		CEAT470M16
	C3913,C3914,C3921,C5707		CEAT470M25
	C1042		CEAT471M16
	C3911,C3912		CEJQNP101M16
	C5501,C5531,C5704		CKSRYB102K50
	C3920,C5203,C5503-C5506		CKSRYB103K50
	C5509,C5510,C5520,C5522-C5524		CKSRYB103K50
	C5535,C8114,C8117,C8118		CKSRYB103K50
	C8129,C8130,C8137,C8138		CKSRYB103K50
	C8143,C8144,C8199,C8337,C8338		CKSRYB103K50
	C8341,C8342,C8345,C8346		CKSRYB103K50
	C8401,C8402,C8417,C8418		CKSRYB103K50
	C8421,C8422,C8503-C8510		CKSRYB103K50
	C8519-C8526,C8535-C8542,C8547		CKSRYB103K50
	C5205,C5511,C5517,C5703,C8001		CKSRYB104K25
	C8003,C8004,C8145,C8146		CKSRYB104K25
	C8201,C8202		CKSRYB104K25
	C8315-C8318,C8327,C8329		CKSRYB152K50
	C8334		CKSRYB222K50
	C8330		CKSRYB224K16
	C8303,C8304		CKSRYB331K50
	C8207-C8209,C8211,C8213,C8215		CKSRYB473K50
	C8305,C8306		CKSRYB821K50

RESISTORS

	R3939-R3950		RS1/10S101J
	R8501-R8504,R8509-R8512		RS1/16S1002F
	R8517-R8520		RS1/16S1002F
	Other Resistors		RS1/16S###J

OTHERS

	X5501	CERAMIC RESONATOR (10MHz)	ASS7034
	CN1901,CN5501	7P FFC CONNECTOR	52045-0745
	CN5701	13P FFC CONNECTOR	52045-1345
	JA8102	3P PIN JACK	AKB7153
	JA8101	3P PIN JACK	AKB7154
	CN8301,CN8302	17P PLUG	AKP7061
	CN5502,CN5503	23P PLUG	AKP7064
	CN5506	20P SOCKET	AKP7129
	CN8501	12P CONNECTOR	AKP7131
	CN5201	10P CONNECTOR	AKP7134
	CN5507	KR CONNECTOR	B14B-PH-K
	CN3901	KR CONNECTOR	B5B-PH-K
	JA8203	OPTICAL LINK OUT	GP1FA502TZ
	JA8202	OPTICAL LINK IN	GP1FA512RZB
	J8001	CONNECTOR ASSY	PF04PG-B10
		PCB BINDER	VEF1040
	JA8103	4P PIN JACK	VKB1070
	JA8201	1P PIN JACK (AU, BLK)	VKB1074
	CN5505	7P FFC CONNECTOR	VKN1183
	KN8401,KN8402	EARTH METAL FITTING	VNF1084

L STBY KEY ASSY

SWITCHES AND RELAYS

	S1901		VSG1023

OTHERS

	CN1906	KR CONNECTOR	S2B-PH-K

M DOOR SW2 ASSY

SWITCHES AND RELAYS

	S1909		ASG7023

N KEY L ASSY

Mark No.	Description	Part No.
SEMICONDUCTORS		
D1903		NSPB500-0008
SWITCHES AND RELAYS		
S1902-S1904		ASG7013
CAPACITORS		
C1902		CKSRYB103K50
RESISTORS		
All Resistors		RS1/16S###J
OTHERS		
1909	4P CABLE HOLDER	51048-0400
CN1902	7P FFC CONNECTOR	52044-0745
J1901	4P JUMPER WIRE	D20PDD0410E
J1915	CONNECTOR ASSY	PF02PG-B12
J1905	CONNECTOR ASSY	PF02PG2B12
	PCB BINDER	VEF1040

O TIMER LED ASSY

SEMICONDUCTORS		
D1901		SLR-343PC
OTHERS		
1911	3P CABLE HOLDER	51048-0300
1910	4P CABLE HOLDER	51048-0400
J1903	3P JUMPER WIRE	D20PDD0310E

P KEY R ASSY

SWITCHES AND RELAYS		
S1905,S1906		ASG7013
RESISTORS		
All Resistors		RS1/16S###J
OTHERS		
1913	3P CABLE HOLDER	51048-0300
J1913	CONNECTOR ASSY	PF02PG-B12

Q O/C KEY ASSY

SWITCHES AND RELAYS		
S1907,S1908		VSG1023
RESISTORS		
All Resistors		RS1/16S###J
OTHERS		
CN1914	KR CONNECTOR	S2B-PH-K

R MOTOR ASSY

SEMICONDUCTORS		
D8005-D8008		1SR154-400
CAPACITORS		
C8002		CKSRYB104K25
OTHERS		
J8004	CONNECTOR ASSY	PF02PG-B12
CN8001	KR CONNECTOR	S4B-PH-K

S DOOR SW ASSY

SWITCHES AND RELAYS		
S8001		VSK1011
RESISTORS		
All Resistors		RS1/16S###J
OTHERS		
CN8003	KR CONNECTOR	S2B-PH-K

T HP ASSY

COILS AND FILTERS		
L3901,L3902	CHIP BEAD	VTL1110
CAPACITORS		
C3925,C3926		CKSRYB102K50
C3923,C3924,C3929,C3931		CKSRYB104K25
C3927,C3928		CKSRYB223K50
RESISTORS		
R3934,R3997		RS1/16S0R0J
R3925		RS1/16S680J
Other Resistors		RS1/10S###J
OTHERS		
J3901	EARTH LEAD UNIT	ADF7004
JA3901	MINI JACK	AKN7026
CN3902	KR CONNECTOR	B5B-PH-K

U OEL CONT ASSY

SEMICONDUCTORS		
IC1902		PD3430A
IC1901		PD5797A
IC1903		PD8103A
IC1904		TC7SH08FU
Q1901		UN5212
COILS AND FILTERS		
L5056	CHIP COIL (2.2u)	ATH1086
L5043	CHIP COIL	ATL7006
F5044-F5046	CHIP BEAD	DTF1067
L5002,L5005,L5009,L5013,L5017	CHIP BEAD FILTER	DTL1066
L5021,L5025,L5029,L5033,L5037	CHIP BEAD FILTER	DTL1066
L5047,L5051	CHIP BEAD FILTER	DTL1066
L5001,L5041,L5042,L5058		LCTA2R2J2520
L5003		LCTA4R7J2520
L5004		LCTA8R2J2520
L5057	CHIP BEAD	VTL1087
CAPACITORS		
C5014,C5024,C5036,C5038		CCSRCH101J50
C5007,C5008		CCSRCH470J50
C5029		CEV100M16
C5017,C5020,C5025,C5028,C5041		CEV101M16
C5023		CKSRYB102K50
C5018,C5026,C5027		CKSRYB103K50
C5001-C5003,C5006,C5010,C5011		CKSRYB104K25

Mark	No.	Description	Part No.
	C5013		CKSRYB104K25
	C5037		CKSRYB105K10
	C5031		CKSYB475K16
	C5022,C5034		DCH1121

RESISTORS

R5048-R5051		RS1/8S820J
Other Resistors		RS1/16S###J

OTHERS

X1901	CHIP CERA LOCK (20.000MHz)	ASS7051
CN5003	FLEXIBLE CONNECTOR	52745-1890
CN5001	B TO B PLUG 10P	AKP7175
CN5002	9P FFC CONNECTOR	VKN1495
KN5001,KN5002	EARTH METAL FITTING	VNF1109

VOEL JACK ASSY

SEMICONDUCTORS

IC5101	RPM7140-H5
D5101	1SS355
D5102,D5107	HZU2.0B
D5103-D5106	UDZS8.2B

CAPACITORS

C5101	CEV470M16
C5102	CKSRYB104K25

RESISTORS

All Resistors	RS1/16S###J

OTHERS

CN5651	10P CONNECTOR	AKP7134
CN5101	B TO B SOCKET 10P	AKP7174

6. ADJUSTMENT

6.1 DVD SECTION ADJUSTMENT

6.1.1 Adjustment Items and Location

■ Adjustment Items

[Mechanism Part]

❶ Tangential and Radial Height Coarse Adjustment

❷ DVD Jitter Adjustment

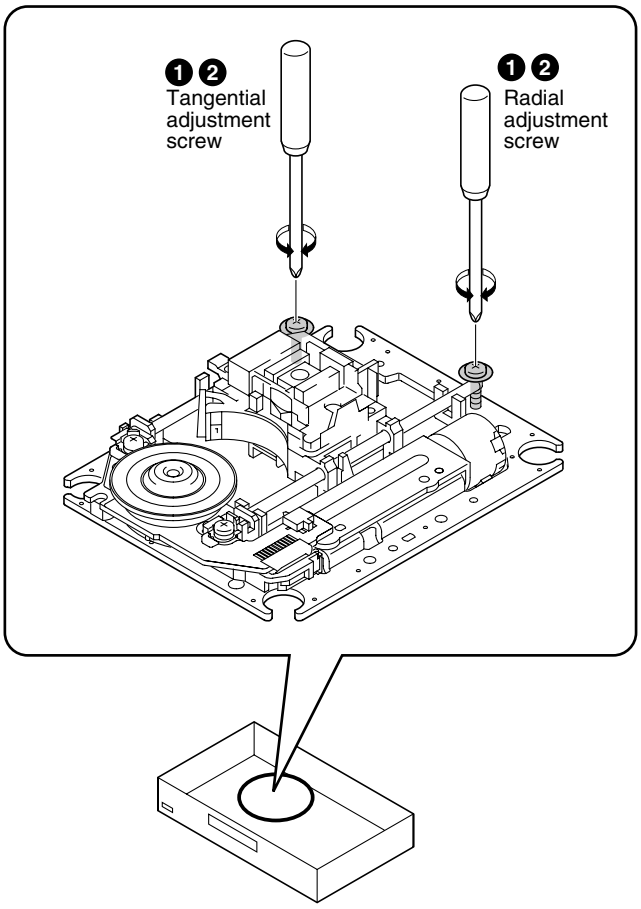
❸ Initialize the Focus Sweep Setting

[Electrical Part]

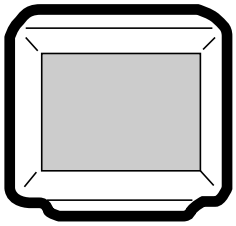
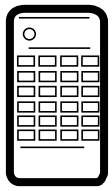
Electrical adjustments are not required.

■ Adjustment Points (Mechanism Part)

Cautions: After adjustment, adjustment screw locks with the Screw tight.



6.1.2 Jigs and Measuring Instruments

⊕ Screwdriver (large)	⊕ Screwdriver (medium)	 TV monitor	 Test mode remote control unit (GGF1067)
⊕ Precise screwdriver	DVD test disc (GGV1025)	Screw tight (GYL1001)	

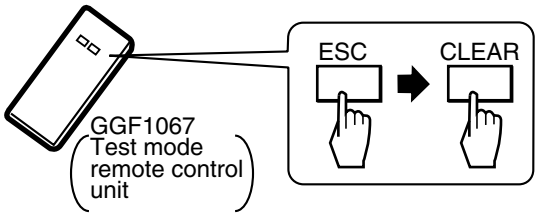
6.1.3 Necessary Adjustment Points

When	Adjustment Points	
■ Exchange Parts of Mechanism Assy		
Exchange the Pickup	Mechanical point	❶, ❷, ❸ ＊ After adjustment, screw locks with the Screw tight.
	Electric point	———
Exchange the Traverse Mechanism	Mechanical point	❸
	Electric point	———
Exchange the Spindle Motor	Mechanical point	❷, ❸ ＊ After adjustment, screw locks with the Screw tight.
	Electric point	———
■ Exchange PCB Assy		
Exchange PC Board LOAB, DVDM ASSY	Mechanical point	———
	Electric point	———

＊

Purpose: To set the sweep which was correct with the individual Traverse mechanism.

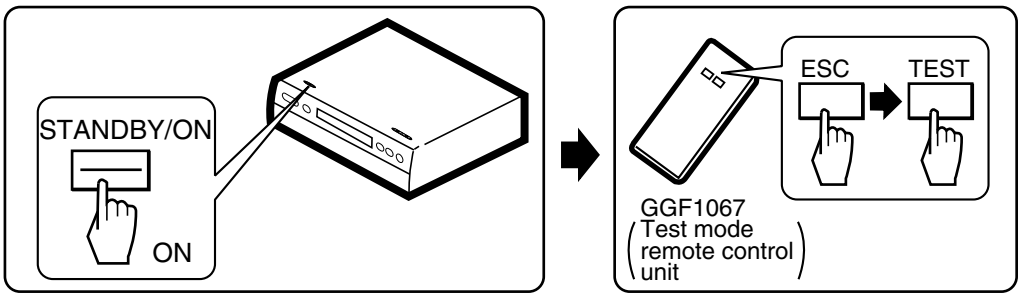
Be sure to perform the following step finally when replaced Pickup, Traverse Mechanism and Spindle Motor.



(It is necessary when performed adjustment procedure ❷.)

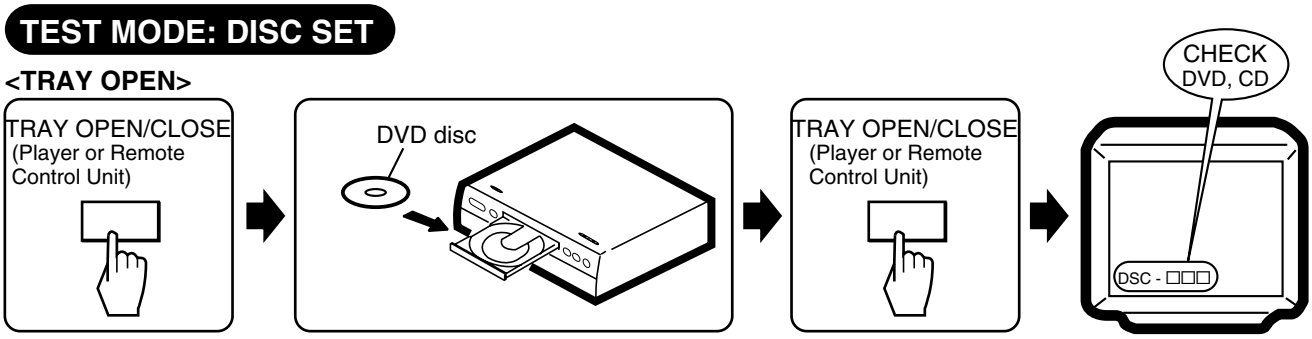
6.1.4 Test Mode

TEST MODE: ON



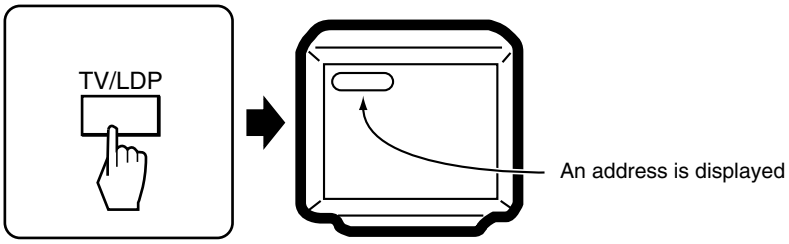
TEST MODE: DISC SET

<TRAY OPEN>



TEST MODE: PLAY

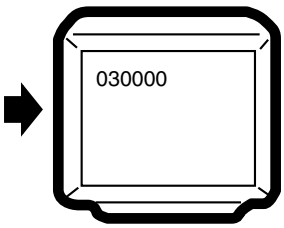
<PLAY>



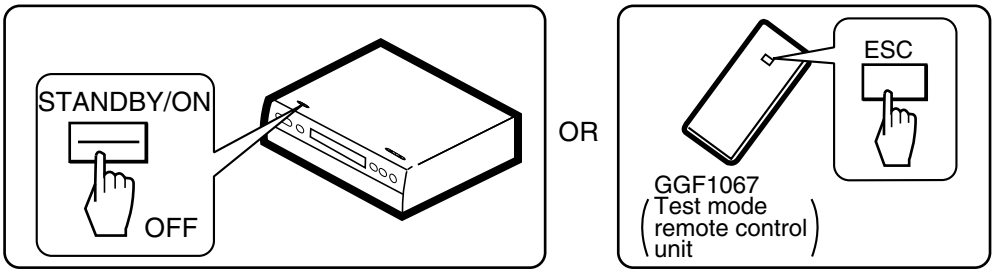
< When playback with the target address of disc (DVD)>

For example, when playback with # 30000

During PLAY [+10] ➡ [3] ➡ [0] ➡ [0] ➡ [0] ➡ [0] ➡ [CHP/TIM] Press keys in order



TEST MODE: OFF

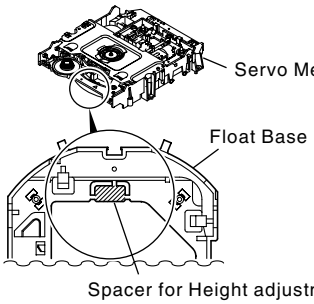


6.1.5 Mechanism Adjustment

1 Tangential and Radial Height Coarse Adjustment

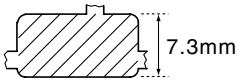
START

- Remove the servo mechanism.
- Remove a Spacer for height adjustment attached to the back side (shaded area) of the Servo Mechanism (Float Base) with nippers.

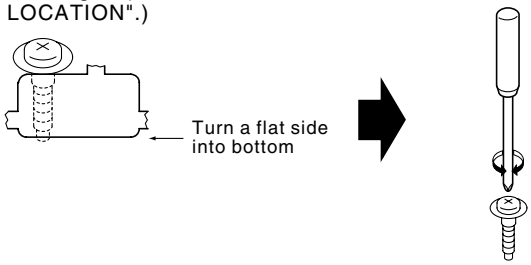


Note:
Turn the Short switch to Short side when removing the Pickup Flexible Cable.
(Refer to "7.1.12 DISASSEBLY".)

Cautions:
Because there is not a Spacer for height adjustment in adjustment after the second time, will keep it at need.
(This parts is Traverse mechanism exclusive use of a model for 2001 years)



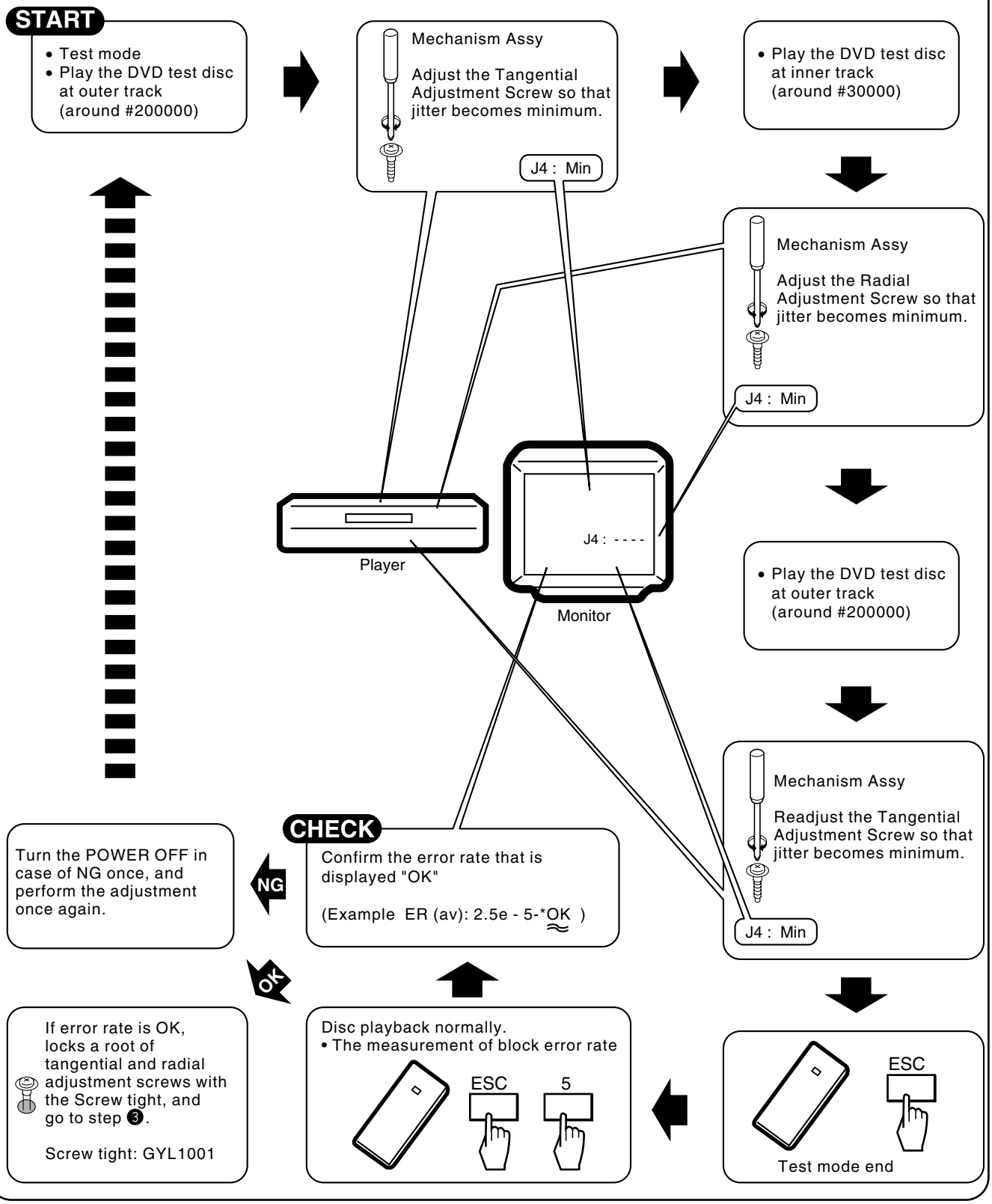
Put a spacer between a Tangential (or Radial) adjustment screw and Mechanism Base and turn each screw to adjust the height. (Refer to "6.1 ADJUSTMENT ITEMS AND LOCATION".)



❷ DVD Jitter Adjustment

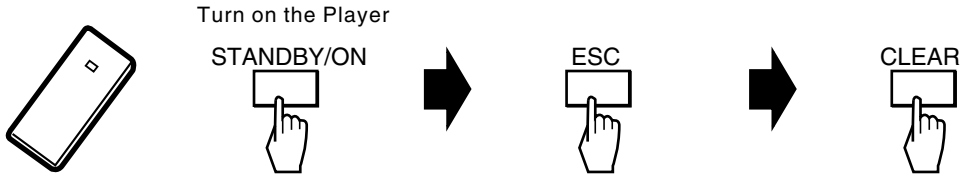
- Playback method of inner and outer address for the purpose is refererd to "6.1.4 TEST MODE".
- Jitter indication of the monitor is refererd to "7.1.3 TEST MODE SCREEN DISPLAY".

Use disc: GGV1025


START
• Test mode
• Play the DVD test disc at outer track (around #200000)
Mechanism Assy
Adjust the Tangential Adjustment Screw so that jitter becomes minimum.
J4 : Min
• Play the DVD test disc at inner track (around #30000)
Mechanism Assy
Adjust the Radial Adjustment Screw so that jitter becomes minimum.
J4 : Min
Player
J4 : - - - -
Monitor
• Play the DVD test disc at outer track (around #200000)
Mechanism Assy
Readjust the Tangential Adjustment Screw so that jitter becomes minimum.
J4 : Min
ESC
Test mode end
Disc playback normally.
• The measurement of block error rate
ESC
5
CHECK
Confirm the error rate that is displayed "OK"
(Example ER (av): 2.5e - 5-*OK)
NG
Turn the POWER OFF in case of NG once, and perform the adjustment once again.
OK
If error rate is OK, locks a root of tangential and radial adjustment screws with the Screw tight, and go to step ❸.
Screw tight: GYL1001

❸ Initialize the Focus Sweep Setting

Purpose: To set the sweep which was correct with the individual Traverse mechanism.



Note: Be sure to perform this step when replaced the Pickup or Traverse mechanism.

6.2 TUNER SECTION ADJUSTMENT

■ AM Tuner Section

• There is no adjustment in the AM tuner.

■ FM Tuner Section

• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

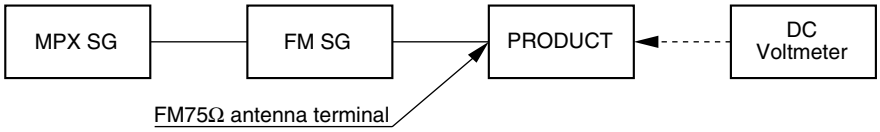
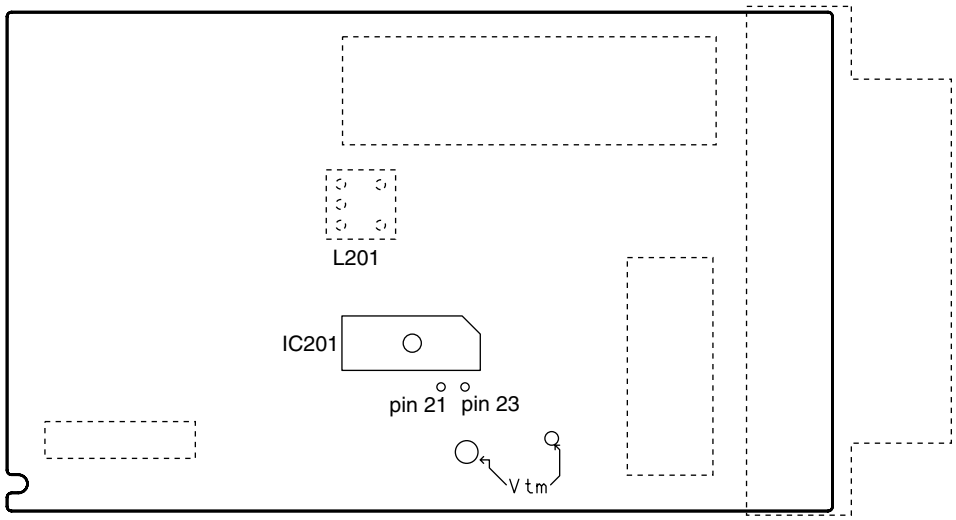


Fig.1 Adjustment Wiring Diagram

H FM/AM TUNER MODULE



SIDE B

Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 ID NUMBER AND ID DATA SETTING

Entering the ID Number and ID Data for Players with DVD-Audio and DVD-RW Compatibility

It is necessary for a player with DVD-audio and DVD-RW compatibility to set an individual number (ID number) and ID data. If the number and data are not set correctly with the following procedure, operations in the future may not be guaranteed. You will find the ID number to be set on the yellow label on the rear panel.

Important: If no yellow label is found on the rear panel, write down the specified ID number by checking it according to "How to confirm the ID number" shown below.

The Input is Necessary When:

- Downloading FLASH-ROM is finished. (The latest version must be downloaded when a repair is made.)
- "No ID Number" is displayed on the screen or OEL display immediately after the power is turned on or in Stop mode.
- If "No ID DATA" is displayed, the ID data must be entered.

Note:
Be sure to enter the ID number in Stop mode.
Use the service remote control (GGF1067) for operations. Only opening/closing of the tray are performed from the player.
Use Disc No. : GGV1084

How to Input the ID Number and ID Data

① To enter the input mode, press ESC + STEREO in a status with no ID number set, such as after FLASH-ROM downloading.

↓

② As number input is enabled when the unit enters the input mode, input the 9-digit ID number.
(The entered number is also displayed on the OEL display.)

```
[Player's ID Number Setting]
  ID Number ?
② > - - - - - - - - -

<CLEAR>  Exit


Input ID Number !
```

↓

③ After inputting the number, press SEARCH to register the ID number.

```
[Player's ID Number Setting]
  ID Number ?
> 0 0 0 0 0 0 0 0 1   OK ?

<PLAY>      Compare Mode
③ <SEARCH>  Enter

Input ID Number !
```

↓

④ When the ID number has been registered, the unit enters the ID data input mode. (The OEL display indicates "NO ID DATA.")
In this condition, place the ID data disc on the tray and close the tray using the CLOSE key "■/⏏" on the player.

```
[Player's ID Data Setting]



<CLEAR>  Exit


④ Insert The ID Data Disc !
```

↓

⑤ While the data are being read, the message shown in the figure at left is displayed on the screen.
(The OEL display indicates "RD ID DATA.")

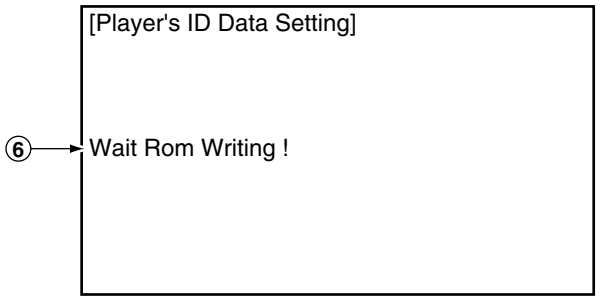
```
[Player's ID Data Setting]




⑤ Loading The ID Data Disc !
```

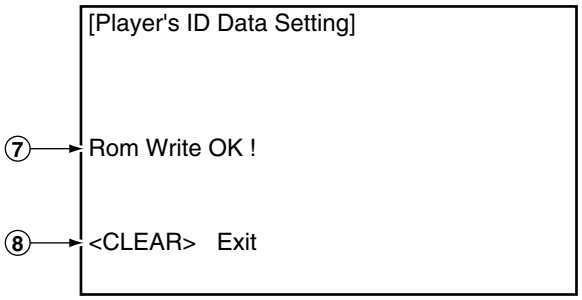
↓

⑥ When the ID data have been read, the data are written to the FLASH-ROM.
(The OEL display indicates "WR ID DATA.")



⑦ When the ID data have been written to the FLASH-ROM, the message "Rom Write OK" is displayed on the screen.
(The OEL display indicates "ID DATA OK.")

⑧ After confirming this message, press CLEAR to exit the input mode.

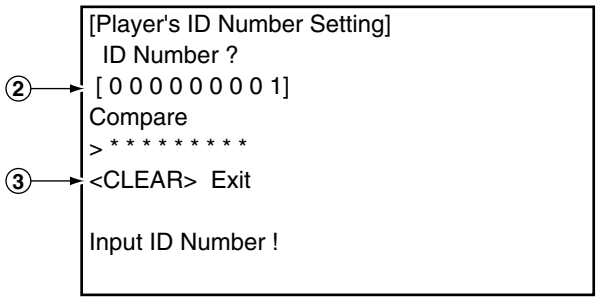


How to Confirm the ID Number

① Press ESC + STEREO with an ID number set, and the unit enters the ID number confirmation mode.

② The set ID number is displayed on the screen (and on the OEL display), permitting you to confirm it.

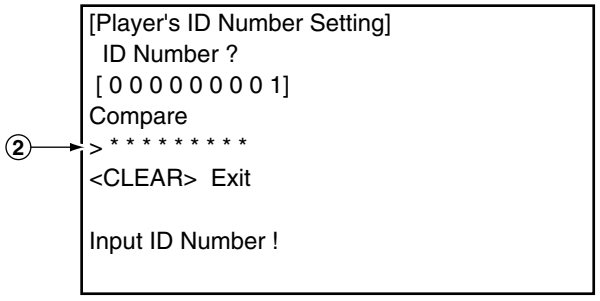
③ To exit this mode, press CLEAR.



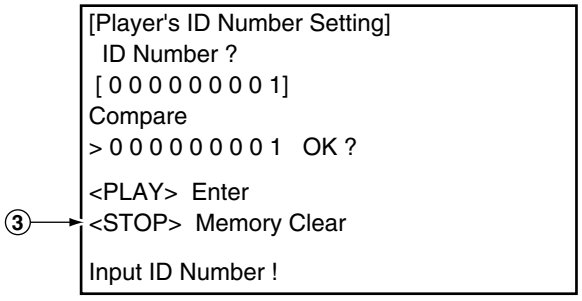
How to Clear the ID Number

① Press ESC + STEREO with an ID number set, and the unit enters the ID number confirmation mode.

② Input the same number as the ID number you have set.



③ After inputting the number, press STOP.
Only when the entered number matches the set ID number, the ID number is cleared and the unit exits this mode.
If the numbers do not match, you must return to step 2.
(STOP is not accepted until 9 digits are entered.)



7.1.2 SELF-DIAGNOSIS FUNCTION OF PICKUP DETECTIVE

This unit can confirm the laser diode current value (DVD: 650nm, CD: 780nm) of pickup on the Test Mode screen.
(Press the [ESC] → [TEST] keys in order on the test mode remote control unit (GGF1067) to enter the test mode.)

It's effective in case of the following condition.

Symptom

- Indicates "No Disc" in OEL display.
- Player does not playback, etc..

Procedure of Self-Diagnosis

① Enter the Test mode.

② When diagnosing the 650nm laser diode:
Press the [TEST] → [1] keys in order, and turn on the laser diode (It light-up for nine seconds.).
When diagnosing the 780nm laser diode:
Press the [TEST] → [4] keys in order, and turn on the laser diode (It light-up for nine seconds.).

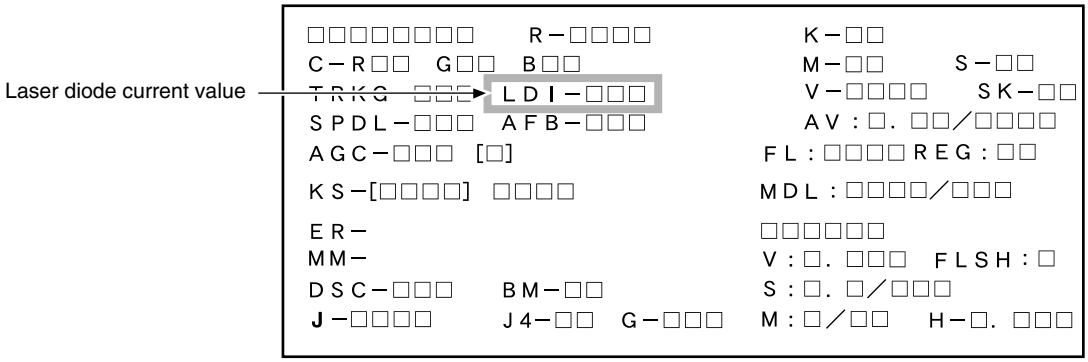
When let it turn on once again after performed ② once,
After pressed [REP.B] key once
650nm: Press the [TEST] → [1] keys in order
780nm: Press the [TEST] → [4] keys in order

③ Confirm the indicated value of the laser diode current (LDI). (Refer to following figure.)

④ **When indicated value is more than 100, pickup is defective. → Replacement is necessary**
Replace the Traverse Mechanism Assy or Pickup.

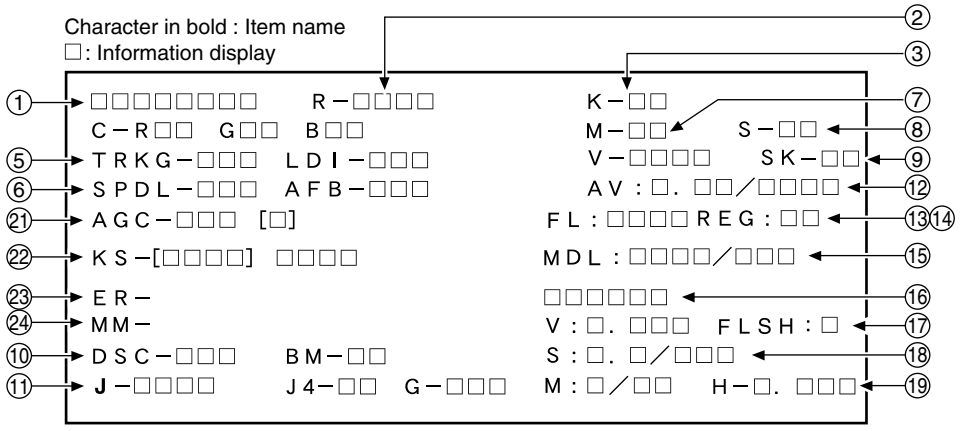
Note : When a DVD disc or a CD disc is played in the test mode, this function is effective.

Character in bold : Item name
□: Information display



7.1.3 TEST MODE SCREEN DISPLAY

■ Display Specification of the Test Mode



① **Address indication**
The address being traced is displayed in number.
(as for the DVD, indication of decimal number is possible.)
DVD : ID indication (hexadecimal number, 8 digits)
[＊＊＊＊＊＊＊＊]
CD : A-TIME (min. sec.) [0 0 0 0 ＊＊＊＊]

② **Code indication of remote control unit [R – ＊＊＊＊]**
In case of double code, display a 2nd code.

③ **Main unit keycode indication [K – ＊＊]**

④ **Background color indication [C – R＊＊ G＊＊ B＊＊]**

⑤ **(1) Tracking status [TRKG – ＊＊＊]**
Tracking on : [ON]
Tracking off : [OFF]
(2) Laser diode current value [LDI – ＊＊＊]

⑥ **(1) Spindle status [SPDL – ＊＊＊]**

Spindle accelerator and brake, free-runnimg	[A/B]
FG servo	[FG]
Rough, velocity phase servo	[SRV]
Offset addition, rough, velocity phase servo	[O_S]

(2) AFB status [AFB – ＊＊]

ON	[ON]
OFF	[OFF]

⑦ **Mechanism (loading) position value [M – ＊＊]**
Unknown : [01] or [41]
Open state : [04]
Close state : [08]
During opening : [12]
During closing : [22]

⑧ **Slider position [S – ＊＊＊＊]**
CD TOC area : [IN]
CD active area : [CD]

⑨ **Output video system [V – ＊＊＊＊]**
NTSC system : [NTSC]
PAL system : [PAL]
Automatic setting : [AUTO]
Scart terminal output [SK – ＊＊]
(Display only the WY model which can do the output setting of scart terminal.)
VIDEO : [00]
S-VIDEO : [01]
RGB : [02]

⑩ **(1) Disc sensing [DSC – ＊＊＊]**
The type of discs loaded is displayed.
[DVD], [CD], [VCD], [ ]
(2) CD 1/3 beam switch [BM – ＊＊]

⑪ **Jitter value [J – ＊＊＊＊]**
Make the jitter four times, and renew it in every 0.5 second.
[J4 – ＊＊]

⑫ **Version of the AV-1 chip / version of firmware [AV: ＊＊ / ＊＊＊＊＊＊＊＊]**

⑬ **Not used [FL: ＊＊＊＊]**

⑭ **Region setting of the player [REG: ＊]**
Setting value : [1] to [6]

⑮ **Destination setting of the FL controller [MDL: ＊＊＊＊ / ＊＊＊]**
Four characters in the front represent the type of model.
Three characters in the back represent the destination code.
J: /J, K: /KU, /KC, /KU/KC, R: /RAM/RL/RD, LB: /LB, WY: /WY

⑯ **Part number of the flash ROM and system controller [＊＊＊＊＊＊ / ＊＊＊＊＊＊]**

⑰ **Version of the flash ROM [V: ＊. ＊＊＊]**
Flash ROM size [FLSH = ＊]

⑱ **Revision of the system controller [S: ＊ . ＊ / ＊＊＊]**

⑲ **(1) Revision of the DVD mechanism controller [M: ∗ / ∗ ∗]**
(2) Part number of the GUI-ROM (OEM model) [GUI: ∗ ∗ ∗]
(3) Not used [HOST: ∗ ∗ ∗]

⑳ **AGC setting [AGC – ∗ ∗ ∗ [∗]]**
AGC on : [AGC-ON]
AGC off : [AGC-OFF]
[1] : RFAGC on [0] : RFAGC off

㉒ **FTS servo IC information**
DSP coefficient indication [KS – [∗ ∗ ∗ ∗] ∗ ∗ ∗ ∗]
Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

㉓ **Error rate indication**
① C1 error value of CD [ER – C1 ∗ ∗ ∗ ∗]
② C1 error value of DVD [ER – ∗ ∗ ∗ ∗ ∗ ∗ ∗ ∗]

㉔ **Internal operation mode of mechanism controller [MM – ∗ ∗ : ∗ ∗]**
Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

7.1.4 SELF-DIAGNOSIS FUNCTION

When enter the service mode, self diagnosis mode operates with the "ESC"+"CHP/TIM" keys automatically.

① Mechanism Error History (past eight times of error is displayed)

Two columns of the beginning display the error status for mechanism controller.
(the details of error contents refer to "7.1.4 Error Display".)
Eight columns of the back display the count UP value (turned count up every 20msec) from the power-up.
Example) 32h ≒ 1 sec, BB8h ≒ 1 min, 2BF20h ≒ 1 hour
In addition, when there was error after power-up immediately (till initial setting is completed), turn the most significant bit to ON.

② Check Item Display of Self Diagnosis Function

a) AV1 Host Bus check (possible the check only during stop) (Read & Write process of an internal specific register)
AV_1 : OK
: — ⇒ not yet check
: HOST BUS NG ⇒ HOST bus NG

b) Bus check between AV1 SDRAM (possible the check only during stop) (Read & Write process to the SDRAM)
AV_2 : OK
: — ⇒ not yet check
: AV1-SDRAM BUS NG ⇒ Bus NG between AV1 and SDRAM

c) DMA transfer port check from F.E. to AV1 (during stop, possible the check only in DVD or NO DISC)
(writing from F.E to SDRAM and reading of SDRAM)
AV_3 : OK
: — ⇒ not yet check
: FE-AV1 DMA NG ⇒ Bus NG between F.E and SDRAM installed outside of AV1

d) Video encoder (ADV∗∗∗∗) check (Read of the specific register)
VE : OK
: NG ADV, ⇒ ADV register reading NG
: NG > ADV, ⇒ ADV communication NG of FR to video encoder
: NG > PRO ⇒ Communication NG from EBY to progressive decoder

e) DSP check (Read of the specific register)
DSP : OK
: NG ⇒ DASP NG

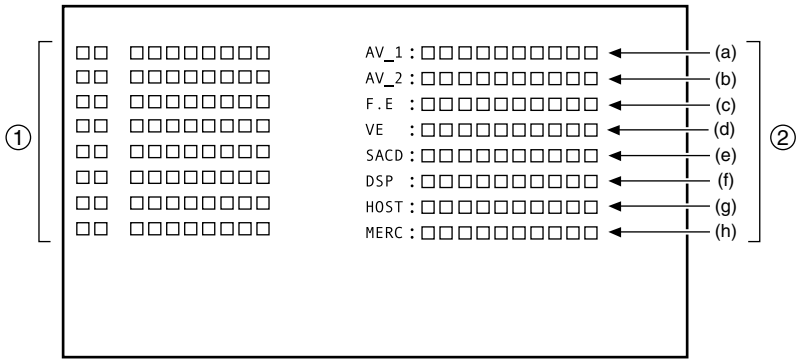
f) SACD check (Read of the specific register)
SACD : OK
: NG ⇒ SACD NG

g) Not used
HOST : – –

h) Not used
MERC : – –

Display the mechanism error history and self diagnosis result by pressing the "CHP / TIM" key once again.
Afterwards press the "CHP / TIM" key with toggle and change the display.

Display screen of mechanism error history and self diagnosis result



7.1.5 FUNCTION SPECIFICATION OF THE SERVICE MODE

• OEL indication of EDC / ID error (short cut function)

Indicate it in OEL with the "ESC"+"CX" keys (LD remote control unit).
Indication is released with the "ESC" key during display.

OEL indication contents

00 / 00 / 01 ∗

Indicate number of the location that caused EDC and ID errors

Retry number of times at having caused ID error (error is indicated only in the occurring moment)
Retry number of times of the latest ID error in the ST system

Retry number of times at having caused EDC error (error is indicated only in the occurring moment)
Retry number of times of the latest EDC error in the ST system

∗ Mark: When even once causes AV1 error, lights.

• Screen display of the service mode

Indicate to the screen with the "ESC"+"CHP/TIM" keys.
Release the indication with the "ESC" key.
Indication contents

① ID Address

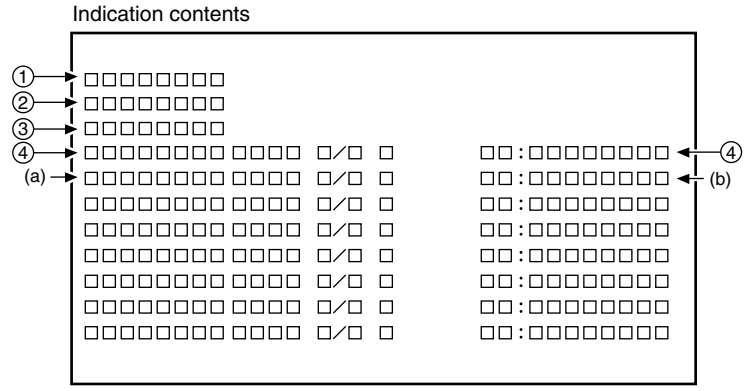
② DVD in playback: Error rate regular indication and exponent indication
CD/VCD in playback indicates the number of correct frame of C1 error /5 seconds.

③ Self diagnosis indication
Indicate the self diagnosis result whether the F.E is normal.
Self Check : During FE checks
Self Check OK : Abnormality is not found in F.E.
Self Check Error : Abnormality is found in F.E.
Indicate the mechanism error history and self diagnosis result by pressing the "CHP / TIM" key once again.
Afterwards press the "CHP / TIM" key with toggle and change the display.
Indication of the mechanism error history and self diagnosis result refer to "7.1.1 self diagnosis function".

④ Error information indication of the AV decoder
(a)
When a retry occurred in reading from the disc, a history indicates the occurrence location and the occurrence reason.
History is indicated to past seven times.
Eight columns of the beginning show the physical address which occurred of retry.
As for four columns of next, bitmap indicates EDC status. LSB shows the first sector during a block and MSB shows a last sector.
Following field indicates the retry number of times.
One digit in front of " / " shows number of times of the retry by EDC Error which occurred in the same block in succession.
One digit after " / " shows number of times of the retry by ID Check Error which occurred in the same block in succession.
" * " of last one digit shows the EDC Check NG Count Over.
" # " shows the ID Check NG Count Over.
When " * " and " # " are not indicated, show that data were rightly readable by retry process.
(b)
Indicate the error information that detected with the Audio/Video Decoder. When error occurred, a history indicates the occurrence time and the occurrence reason. History is indicated to past seven times.
Field in front of ":" indicates the error information of Audio/Video Decoder.
(Indication information is different from Fujitsu Decoder with Mitsubishi Decoder)
XV-DV1000 is Mitsubishi model.

• Specification for the Audio/Video Decoder (M65773FP) model of Mitsubishi
bit7: VLD Fatal Error detection
bit6: VLD Not Fatal Error detection
bit5: Number of Macro Block mismatch
bit4: Decode error
bit3: VLD Sequence Layer Fatal Error detection
bit2: VLD Picture Layer Fatal Error detection
bit1: VLD Slice Layer Fatal Error detection
bit0: Start-up Sequence Time-out Error detection
Following field in " : " indicates a value of STC (System Time Clock) which detected the above Audio/Video Decoder error.

∗ When often perform the switch of debug screen, an error history will be increased.
As for this, CPU power is used for update of OSD drawing, symptoms occur so that control of VBR Buffer is not in time.



7.1.6 ERROR DISPLAY

Error codes that are displayed on the OEL display without using the remote control unit

OEL Display	Possible causes	Operation of the unit
AV1 VER	AV-1 chip is not a match with the program of system controller	The sound may not out with the specific audio.
CPU AERR	CPU address error (Hardware is unusual.)	No operation
DMA AERR	DMA address error (Hardware is unusual.)	No operation
FLASH ID	Difference in versions of the internal ROM of the system controller and of the flash ROM, or bus line failure or reverse installation	No operation
FLASH WRP	Write protect error of the flash ROM	No operation
FLASH SIG	Difference in part number of the flash ROM (When the ROM which could't be used was used.)	No operation
FLASH SUM	Check sum error of the flash ROM (It exceeds the regular size.) or reverse installation (Hardware is unusual.)	No operation
FLASH SIZ	Size error of the flash ROM (Use 4 or 8 M-bit.)	No operation
GUI ROM ERROR	Difference in version of GUI ROM and system controller software.	Operate as the OSD model
ILLGAL	The system controller fetched a code other than an operation code (Hardware is unusual.)	No operation
MECHA CPU	Difference in version of the internal ROM of the mechanism controller and of the flash ROM.	No operation
RESERVE	Undefined interrupt (Hardware is unusual.)	No operation
SLOT	Inappropriate slot command issued (Hardware is unusual.)	No operation

Error codes that are displayed on the OEL display by using the remote control unit (Mechanism controller error)

To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of center of the OEL display

To display the error history: ESC + DISPLAY + One shot; Location of the display: TV screen

OEL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD: Continues operation
12	Search retry error	More beyond the target while the read-in search was converging. A search could not be completed after 3 retries while the unit was tracing 11 tracks. A search could not be completed after retry when timeout occurs at read-in.		CD: Stops, DVD: Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
1C	Embossment plunge error (only a model corresponding to RW)	Plunged into unreadable embossment of DVD-RW player.		1. In wobble nothing (error distinction) : search to address 2E400h 2. In wobble existence: Tray open
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within the following times: at ATB: 2 seconds, at Backup: 2 or 2.02 seconds.		Stop
33	No FOK pulse during playback	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times),then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)
38	Disc-type-sensing error	Were not able to playback from the disc distinction process. PLAY or STOP was not completed by backup operation of the disc distinction. Distinguished it from the blank disc in the ATB process completion.		Open

OEL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command. Disc distinction is not completed even if passes for 10 seconds after the spindle turned.		Stop
48	Spindle FG transition timeout	Did not reach to the rotating speed that ATB was possible for less than 10 seconds. Did not reach aim CAV lock speed (high: 10%, low: 50%) for less than 10 seconds. CAV process passed more than 5 seconds or abnormal speed was detected. Spindle does not lock for less than 3 seconds in the BCA read start or end.		Stops. (FG timeout)
49	Spindle PLL transition timeout	CAV process passed more than 5 seconds. Abnormal speed was detected.		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak detection	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Open
53	Auto sequence timeout of focus jump up	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Open
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 0.5 sec. after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 0.2 sec. after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the AVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADJMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation
71	ID reading check during playback	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read during startup	An ID could not be read within 1 second after the AFB tracking on.		Opens (ID readout failure)

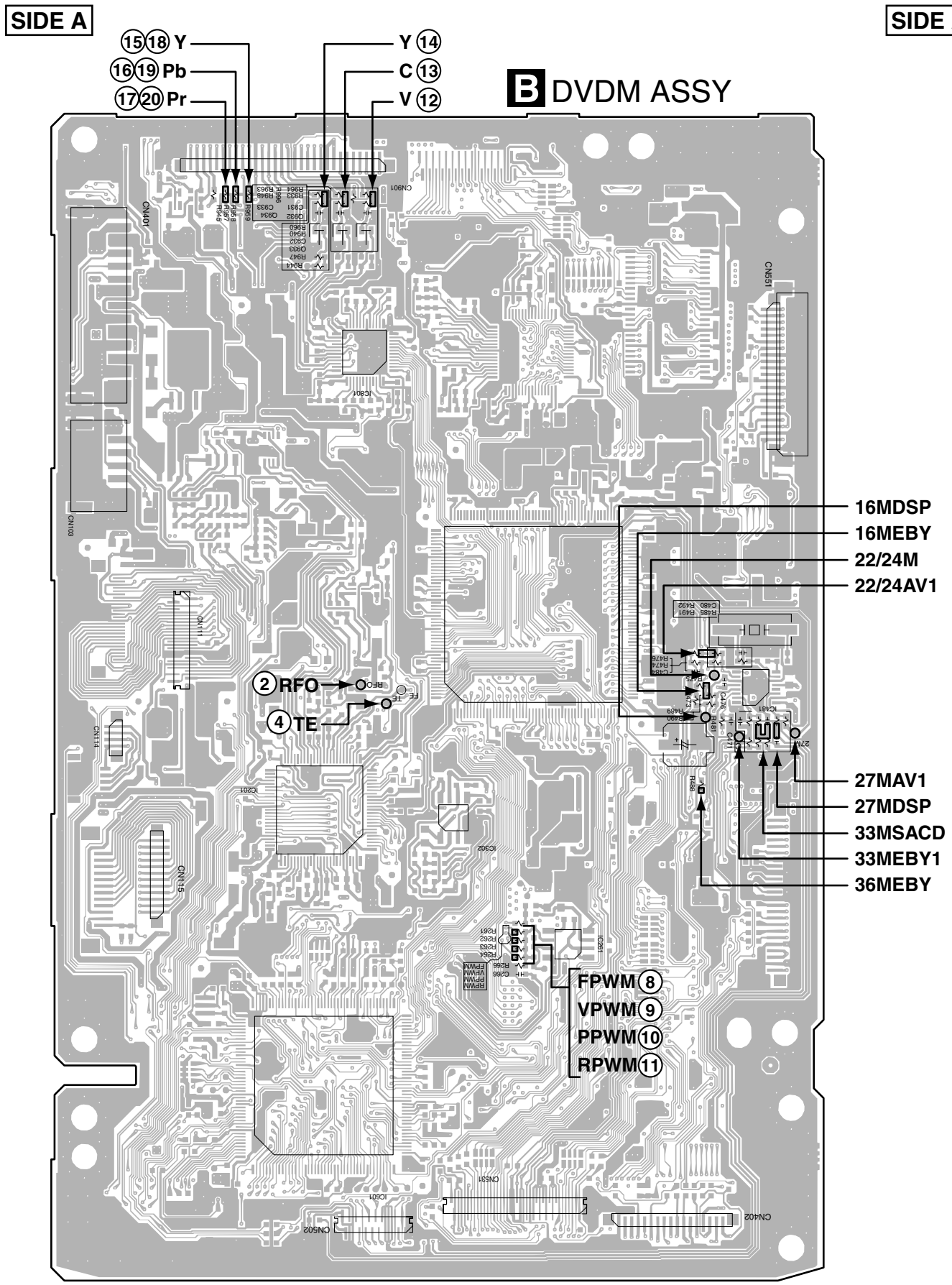
OEL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
74	Subcode check failure during startup		Subcode could not be read within 1 second after the tracking on.	Opens (Subcode readout failure).
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 µS).		Open
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 µS) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		Open
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 µS during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		Open
B1	Timeout error for backup	In the backup sequence, codes could not be read for fixed time.		Stops
B2	Retry error for backup	Cannot close tracking even if performs backup fixed number of times.		Stops
B3	Retry error for trace	During tracing, do not restore after the runaway detection backup was performed several times.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).
(C5)	Short-circuit test corresponding error	After the overcurrent detection (C3 error), furthermore the overcurrent detection port was at L for 300 mS or more continuously.		Turns off the power instantly (No indication on the OEL display and no writing to flash memory)
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F6	Code reading NG		(PH code nothing) When Philips code is not readable during LD starting, and a code was not readable after the slider moved to FWD and REV directions slowly each for five seconds. (PRD) In the CD starting, when a subcode of TOC part was not readable, but the subcode of the program area was readable.	Search, scan and special playback prohibition, Playback as playback CD-R (PRD mode) as it is.
F8	Loading timeout	Loading or unloading could not be completed within a specified time (about 10 seconds). Though a portable cover is opening, when a close command was issued from the system controller.		Reverses the loading direction. It timeout is repeated upon retry, the unit stops.
FC	Focus	• Focus ON sequence could not be completed more than two seconds. • Auto sequence command was finished, actually focus ON was not completed. • Focus did not enter even if retried it eight times.		Stops wherever possible then opens (stops in the case of side B).

Error codes that are displayed on the OEL display by using the remote control unit (Device error)

To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of left of the OEL display

OEL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
bit4=1 10 etc.	Mechanism controller RAM check sum error			No operation or it becomes debugging indication if the power is able to ON.
bit3=1 08 etc.	AV1 access error (read, write NG)			
bit2=1 04 etc.	LSI11 access error			
bit0=1 01 etc.	SRAM access error			

7.1.7 TEST POINTS LOCATION AND WAVEFORMS



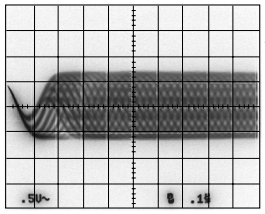
■ WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

B DVDM ASSY

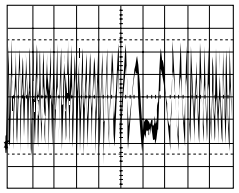
Measurement condition ; No. 1 to 4 and 6 to 11 : MJK1, Title 1-chp 1 No. 12 to 14 : DVD-REF-A1, T2-Chap.1
No. 5 : CD, ABEX-784 Track 1 No. 15 to 20 : DVD-REF-A1, T2-Chap.19

(2) Q106-emitter (RFO)
V: 500mV/div. H: 0.1µsec/div.

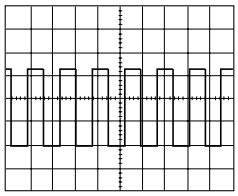


(3)

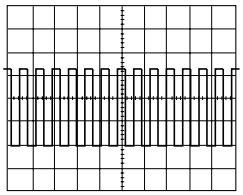
(4) IC101-pin 42 (Tracking Error)
(Al-Inner Tracking Off)
V: 500mV/div. H: 2msec/div.



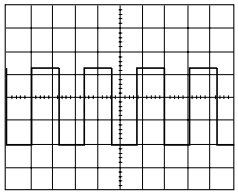
(8) Foot of R261 (FPWM)
V: 1V/div. H: 10µsec/div.



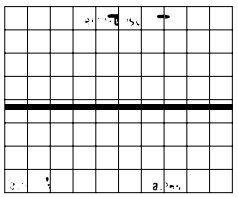
(9) Foot of R262 (VPWM)
V: 1V/div. H: 10µsec/div.



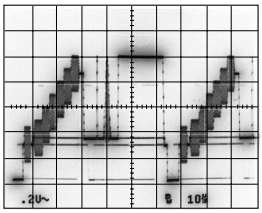
(10) Foot of R263 (PPWM)
V: 1V/div. H: 0.2msec/div.



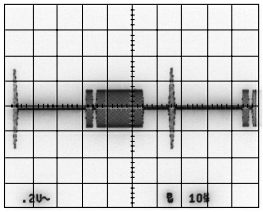
(11) Foot of R264 (RPWM)
V: 1V/div. H: 5msec/div.



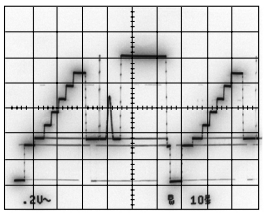
(12) Foot of R964 (V)
V: 0.2V/div. H: 10µsec/div.



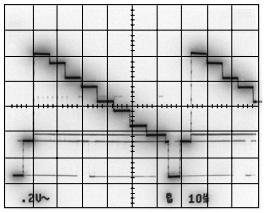
(13) Foot of R963 (C)
V: 0.2V/div. H: 10µsec/div.



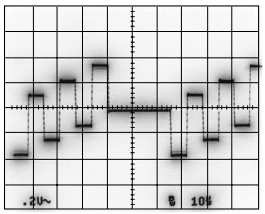
(14) Foot of R960 (Y)
V: 0.2V/div. H: 10µsec/div.



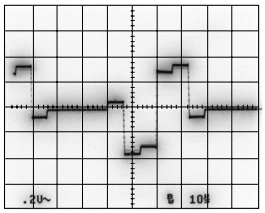
(15) Foot of R959 (Y)
V: 0.2V/div. H: 10µsec/div.



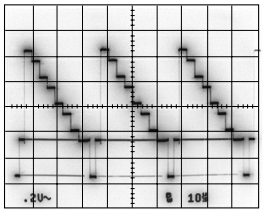
(16) Foot of R958 (Pb)
V: 0.2V/div. H: 10µsec/div.



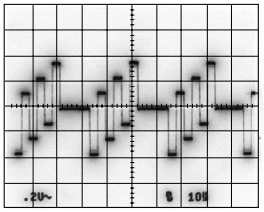
(17) Foot of R957 (Pr)
V: 0.2V/div. H: 10µsec/div.



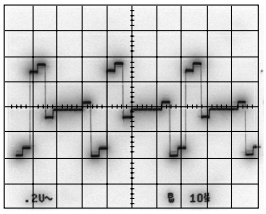
(18) Foot of R959 (Y)
V: 0.2V/div. H: 10µsec/div.



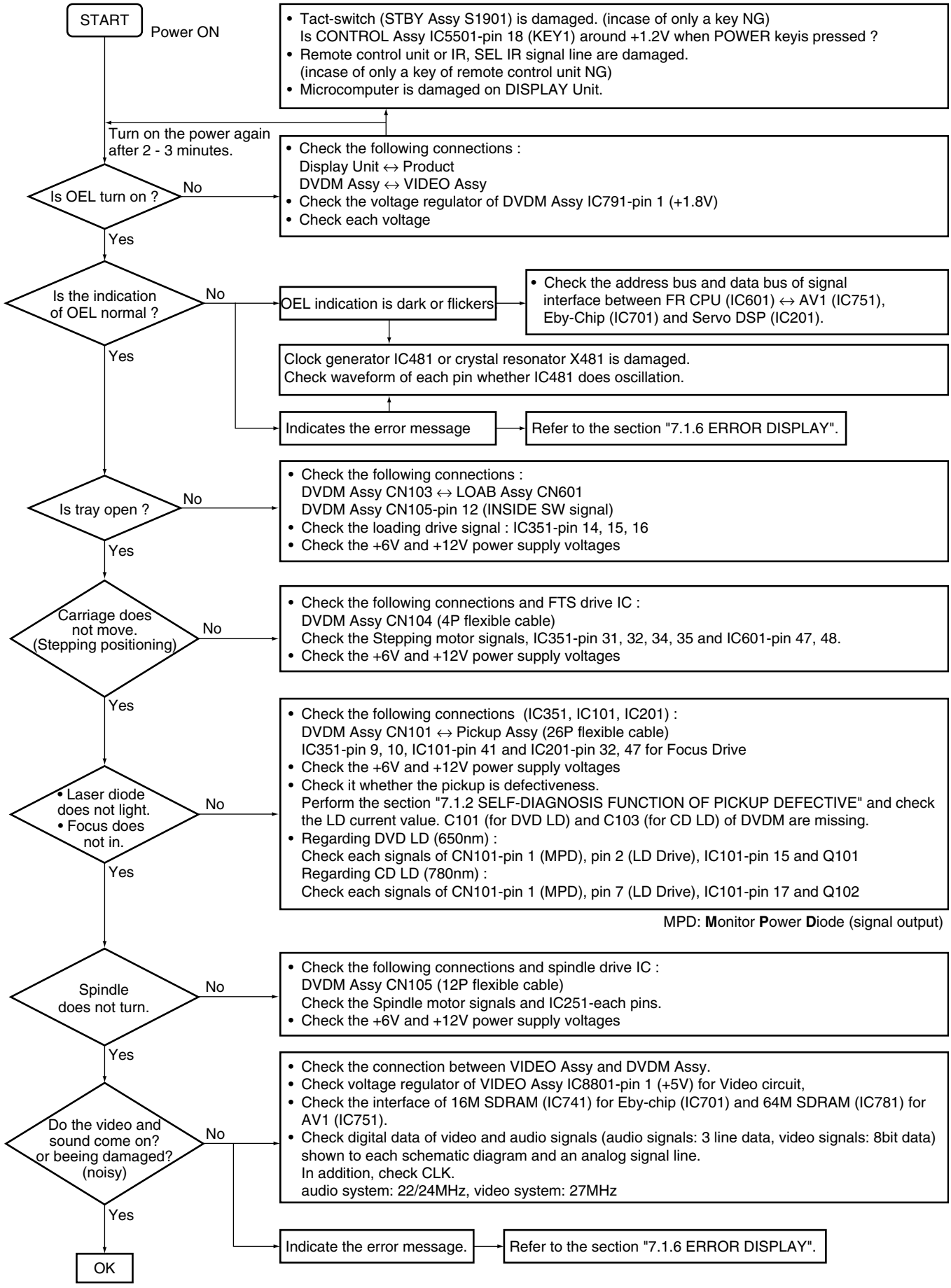
(19) Foot of R958 (Pb)
V: 0.2V/div. H: 10µsec/div.



(20) Foot of R957 (Pr)
V: 0.2V/div. H: 10µsec/div.



7.1.8 TROUBLE SHOOTING


START
Power ON
• Tact-switch (STBY Assy S1901) is damaged. (incase of only a key NG)
Is CONTROL Assy IC5501-pin 18 (KEY1) around +1.2V when POWER keyis pressed ?
• Remote control unit or IR, SEL IR signal line are damaged.
(incase of only a key of remote control unit NG)
• Microcomputer is damaged on DISPLAY Unit.
Turn on the power again after 2 - 3 minutes.
Is OEL turn on ?
No
• Check the following connections :
Display Unit ↔ Product
DVDM Assy ↔ VIDEO Assy
• Check the voltage regulator of DVDM Assy IC791-pin 1 (+1.8V)
• Check each voltage
Yes
Is the indication of OEL normal ?
No
OEL indication is dark or flickers
• Check the address bus and data bus of signal interface between FR CPU (IC601) ↔ AV1 (IC751), Eby-Chip (IC701) and Servo DSP (IC201).
Yes
Clock generator IC481 or crystal resonator X481 is damaged.
Check waveform of each pin whether IC481 does oscillation.
Indicates the error message
Refer to the section "7.1.6 ERROR DISPLAY".
Is tray open ?
No
• Check the following connections :
DVDM Assy CN103 ↔ LOAB Assy CN601
DVDM Assy CN105-pin 12 (INSIDE SW signal)
• Check the loading drive signal : IC351-pin 14, 15, 16
• Check the +6V and +12V power supply voltages
Yes
Carriage does not move. (Stepping positioning)
No
• Check the following connections and FTS drive IC :
DVDM Assy CN104 (4P flexible cable)
Check the Stepping motor signals, IC351-pin 31, 32, 34, 35 and IC601-pin 47, 48.
• Check the +6V and +12V power supply voltages
Yes
• Laser diode does not light.
• Focus does not in.
No
• Check the following connections (IC351, IC101, IC201) :
DVDM Assy CN101 ↔ Pickup Assy (26P flexible cable)
IC351-pin 9, 10, IC101-pin 41 and IC201-pin 32, 47 for Focus Drive
• Check the +6V and +12V power supply voltages
• Check it whether the pickup is defectiveness.
Perform the section "7.1.2 SELF-DIAGNOSIS FUNCTION OF PICKUP DEFECTIVE" and check the LD current value. C101 (for DVD LD) and C103 (for CD LD) of DVDM are missing.
• Regarding DVD LD (650nm) :
Check each signals of CN101-pin 1 (MPD), pin 2 (LD Drive), IC101-pin 15 and Q101
Regarding CD LD (780nm) :
Check each signals of CN101-pin 1 (MPD), pin 7 (LD Drive), IC101-pin 17 and Q102
Yes
MPD: Monitor Power Diode (signal output)
Spindle does not turn.
No
• Check the following connections and spindle drive IC :
DVDM Assy CN105 (12P flexible cable)
Check the Spindle motor signals and IC251-each pins.
• Check the +6V and +12V power supply voltages
Yes
Do the video and sound come on? or beeing damaged? (noisy)
No
• Check the connection between VIDEO Assy and DVDM Assy.
• Check voltage regulator of VIDEO Assy IC8801-pin 1 (+5V) for Video circuit,
• Check the interface of 16M SDRAM (IC741) for Eby-chip (IC701) and 64M SDRAM (IC781) for AV1 (IC751).
• Check digital data of video and audio signals (audio signals: 3 line data, video signals: 8bit data) shown to each schematic diagram and an analog signal line.
In addition, check CLK.
audio system: 22/24MHz, video system: 27MHz
Yes
Indicate the error message.
Refer to the section "7.1.6 ERROR DISPLAY".
OK

7.1.9 SERVICE TEST MODE

(for inspection in the service)

About the Protection Circuit

When product fails in the normal operation, protection circuit works, Timer LED flashes on and off and become the standby state, and cannot turn the power on for 60 seconds.
When activate the product in the service test mode then, operation of the protection circuit is released and turn the power on. Even if failed state continues, the protection circuit does not work.

1. How to enter the test mode

- Turn the power on while short-circuiting with short circuit point SERVICE (pin 43) and VE +5 on the PC Board.
- To release the test mode, pull out the AC power cord or turn the power off.

2. Start operation

- Initial function is a DVD / CD and cannot enter the DEMO mode.

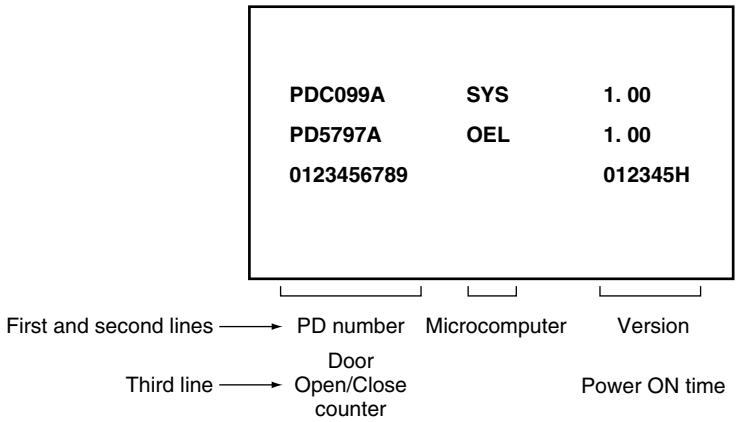
3. Function and operation in the service test mode

Difference with the normal mode

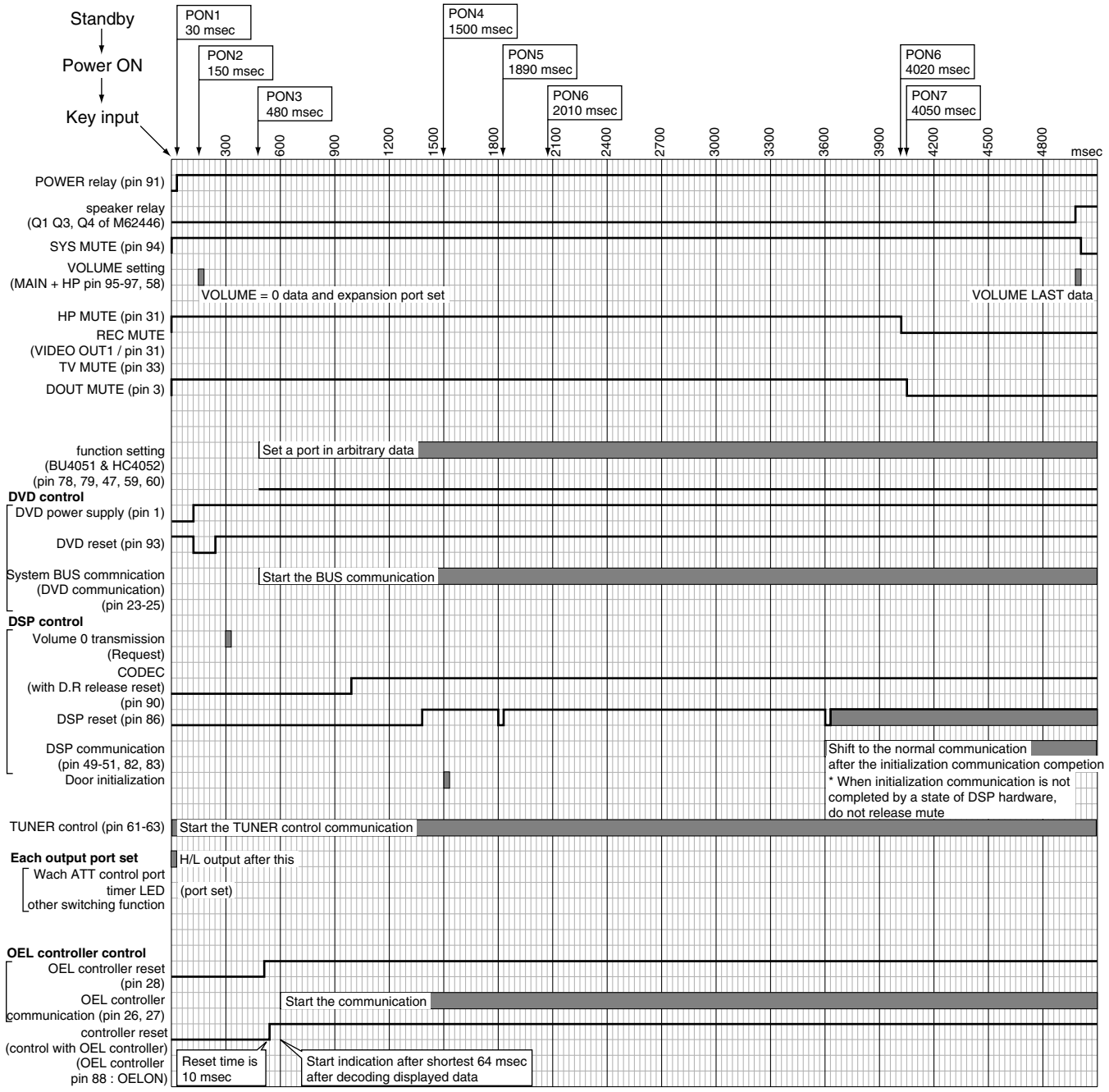
- Even if there is not an AC pulse, operation is possible. Operation can only in the DVD tuner section if it supplies necessary DC power supply even if there is not the amplifier section.
- Release the forced power off function by the protection function. It is easy to perform the diagnosis of the malfunction point.
- Other functions and operations are the same as the normal mode.

4. Version indication of the microcomputer

- When pressing the STOP key for about 8 seconds, version indication of the microcomputer and number of times of operation of the door (count ups by close completion) and total time of the power supply on are indicated.
  Indicated condition is the function except a tuner mode in the power on state. (Memory is cleared in the tuner mode.)
- So that number of times of operation of a door and total time time of the power supply on are backing it up, it is effective so long as backup power supply does not break down.
  Do not clear it by the memory clear and the line test mode.



7.1.10 STANDBY ON TIMING WAVEFORM



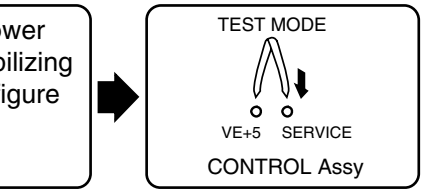
7.1.11 SINGLE OPERATION METHOD

• Please connect DISPLAY UNIT (AXX7142) in order to use Remote Control Unit.

TEST MODE : ON Service TEST mode

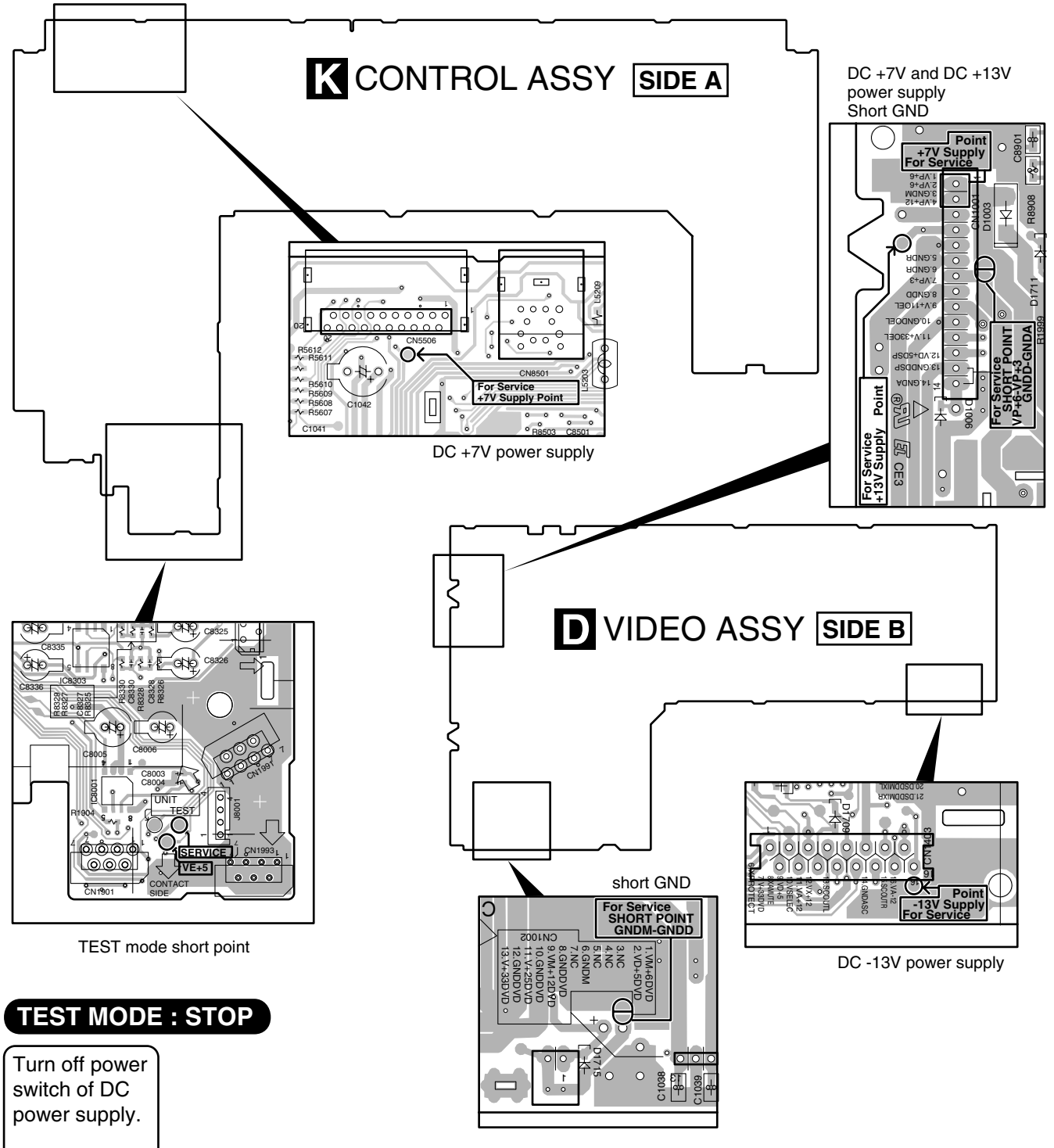
Turn off power switch of DC power supply.

Connect each power supply firmly stabilizing as shown in the figure below.



Turn on power switch of DC power supply.

TEST MODE


K CONTROL ASSY SIDE A
DC +7V and DC +13V power supply Short GND
Point +7V Supply For Service
For Service +13V Supply Point
For Service SHORT POINT VP+6-VP+3 GNDD-GNDA
CN5506
CN8501
For Service +7V Supply Point
DC +7V power supply
D VIDEO ASSY SIDE B
TEST mode short point
short GND
For Service SHORT POINT GNDM-GNDD
Point -13V Supply For Service
DC -13V power supply

TEST MODE : STOP

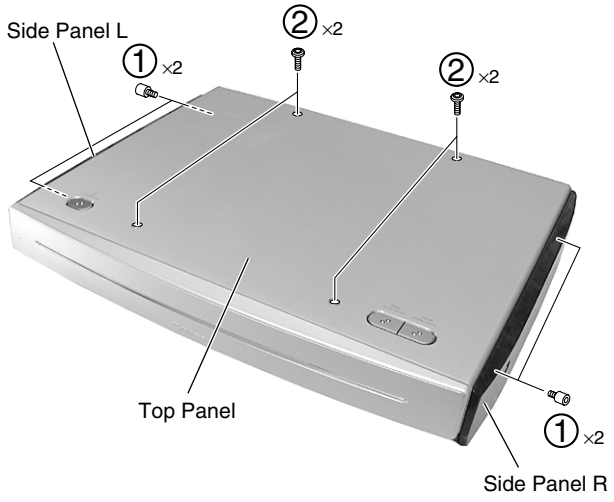
Turn off power switch of DC power supply.

To come off the test mode, AC OFF.
The test mode is not completely cleared in POWER OFF key and AC OFF, please.

7.1.12 DISASSEMBLY

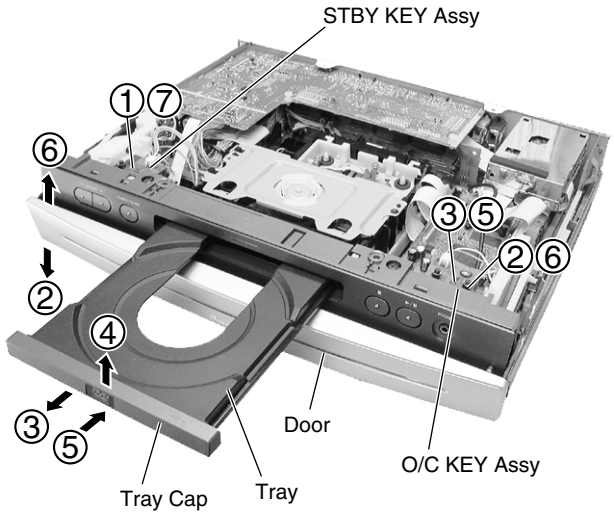
1 Side Panel L, R and Top Panel

① Remove four screws to remove the Side Panel L and R with Hexagonal Lench
② Remove four screws to remove the Top Panel with Hexagonal Lench



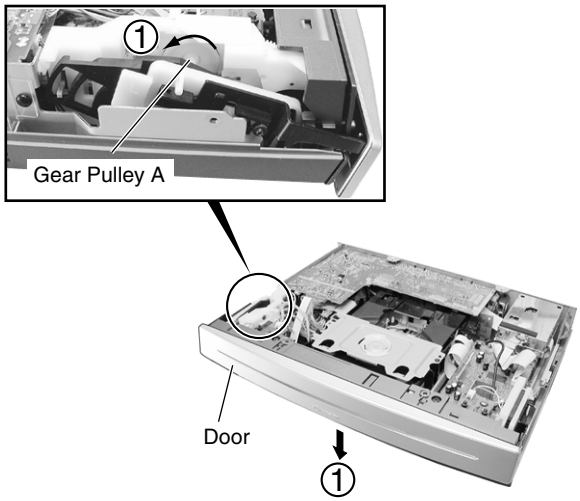
2 Tray Cap

① Turn the power on
② Open the Door
③ Open the Tray
④ Remove the Tray Cap
⑤ Close the Tray
⑥ Close the Door
⑦ Turn the power off

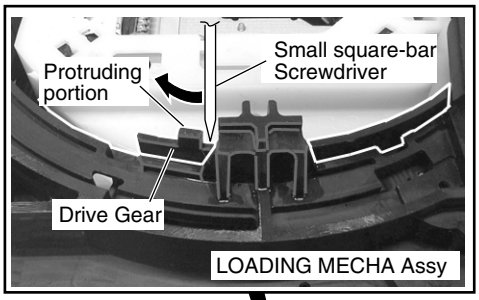


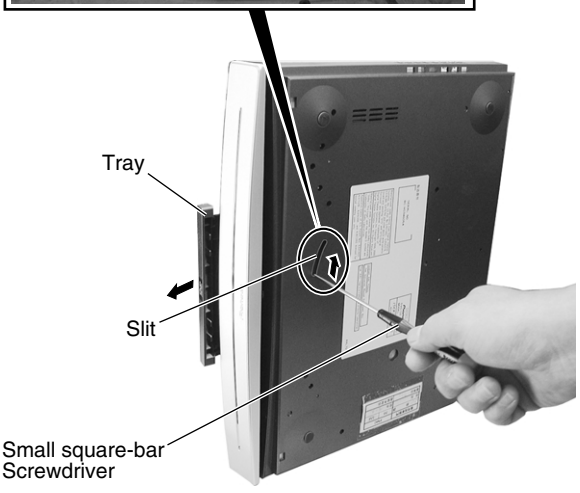
How to open the tray by manual operating

① Turn the Gear Pulley A counterclockwise as figure below and open the door.



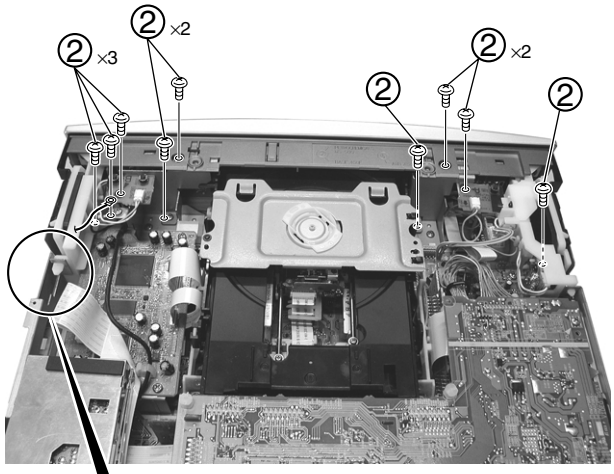
② Pass a small square-bar screwdriver through a slit and slide a protruding portion of the Drive Gear of the LOADING MECHA Assy to the direction of arrow.
If the Tray moved toward the front about 2 or 3 cm, pull out the Tray by hands.

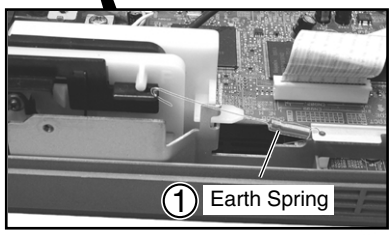




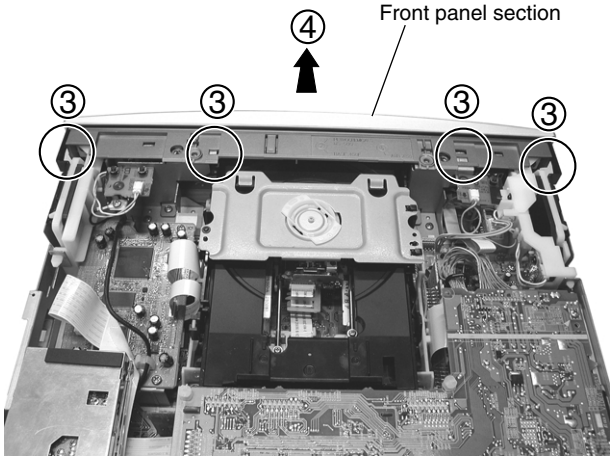
3 Front Panel Section, Door Section

① Remove the Earth Spring
② Remove nine screws

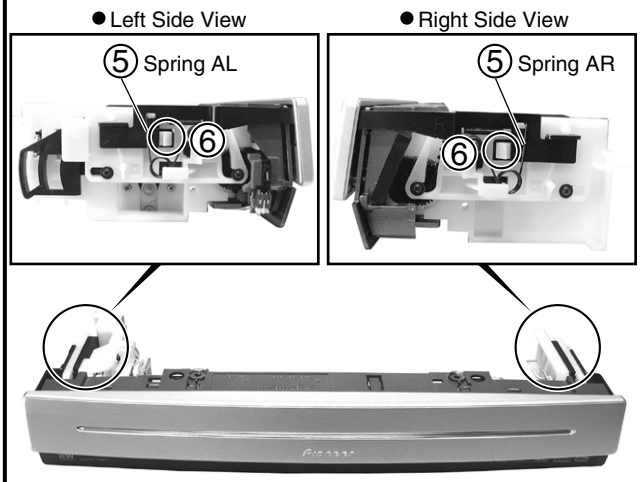




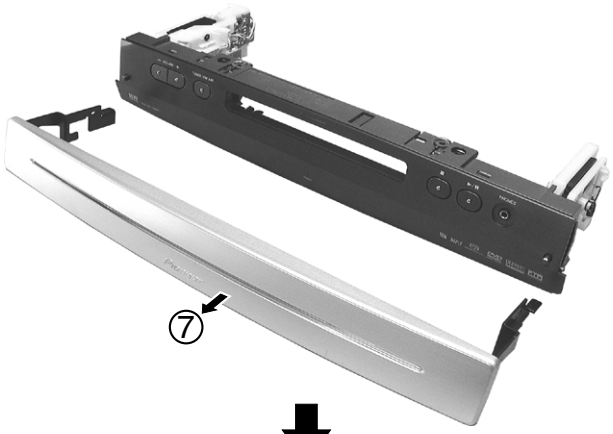
③ Unhook four position
④ Remove the front panel section



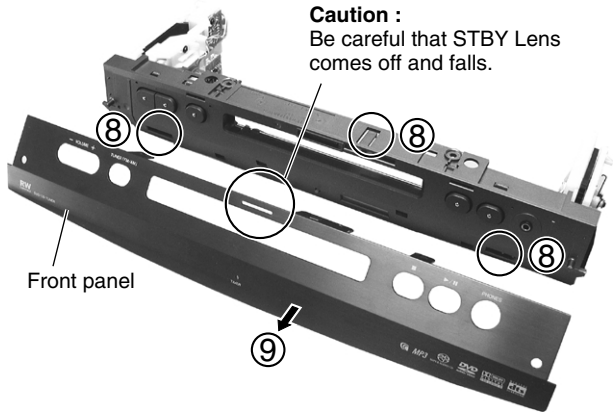
⑤ Remove the Spring AL and Spring AR
⑥ Unhook two position



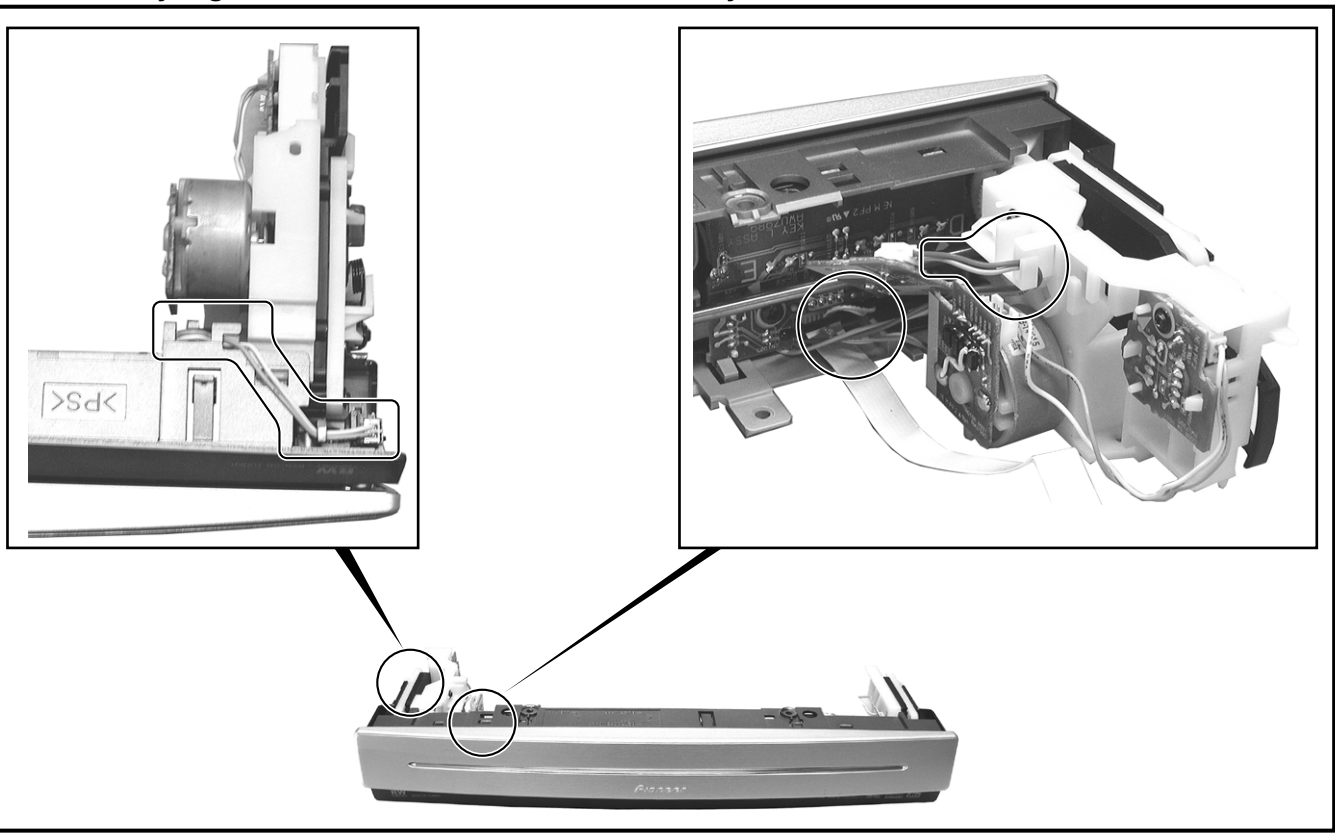
⑦ Remove the door section



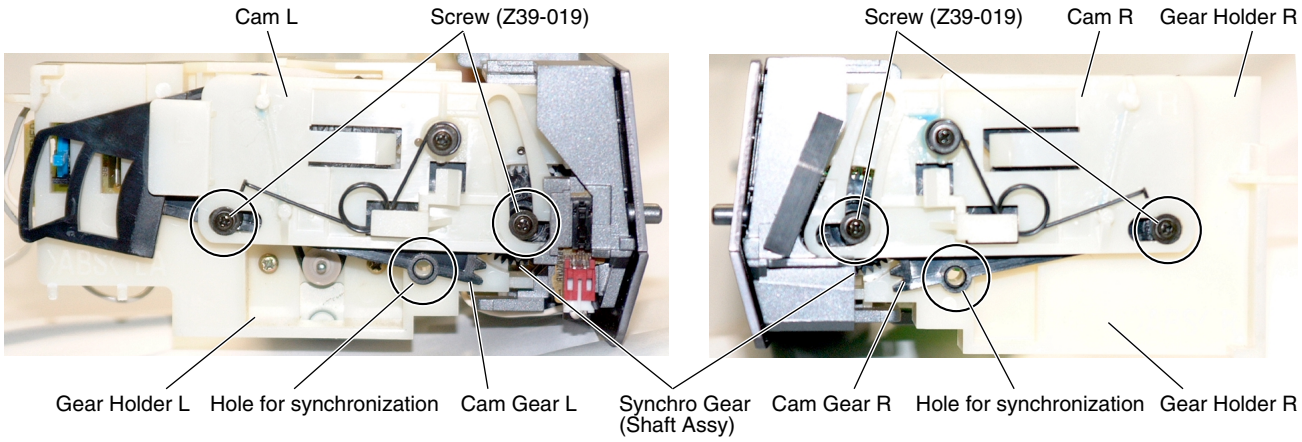
⑧ Unhook three position
⑨ Remove the Front Panel



☞Cable Styling in the Front Panel Section Assembly



☞Align the Gear in the Door Section Assembly



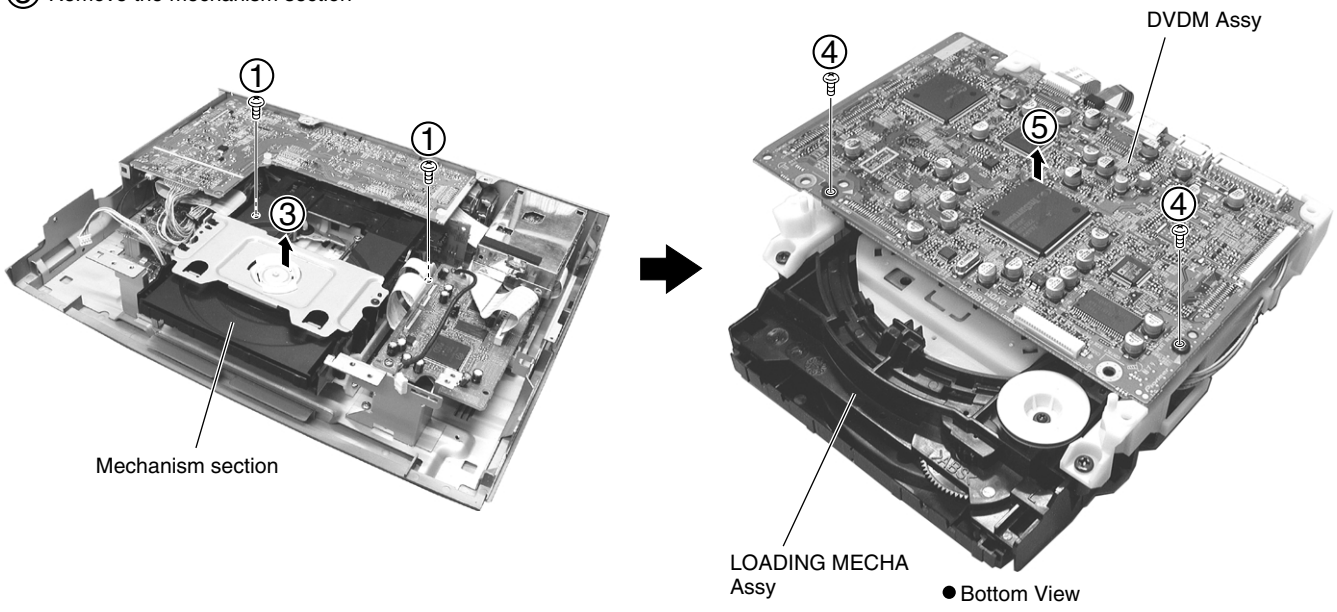
Gear Holder and Cam Gear include hole (ϕ3) for synchronization,
and please assemble it with the condition which turned the hole into the same position. (L, R)

At tightening screw (Z39-019), Cam Gear turns, and hole position moves.
After tightening screw, please turn the hole into the same position by turning Gear Pulley.
And please confirm that it is keeping the hole position. (L, R)

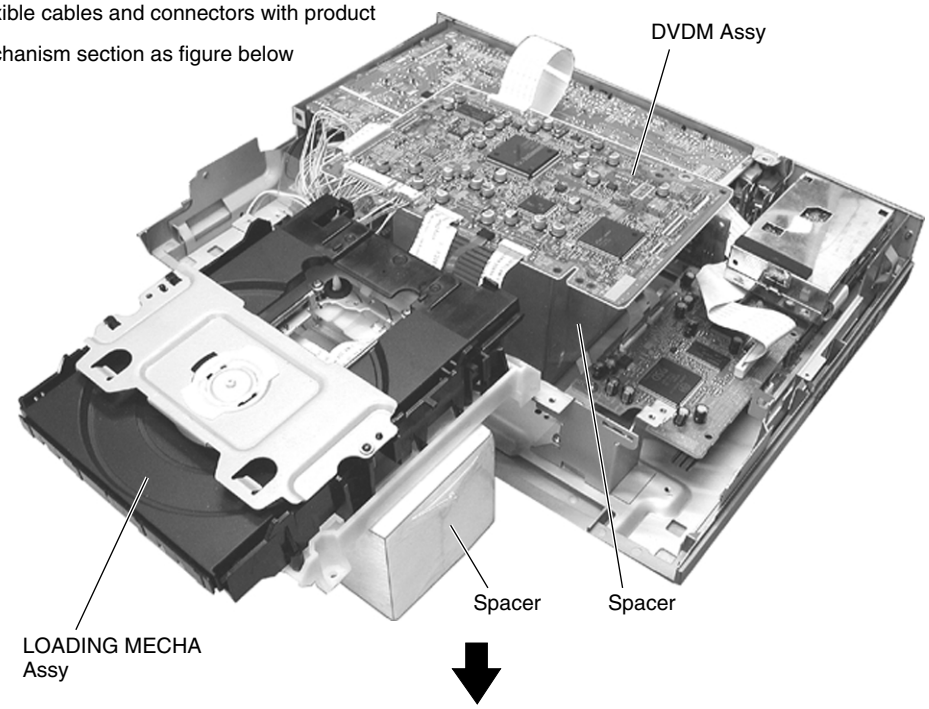
Please insert round bar of ϕ3 (Guide Bar : VLL1514) into the hole before tightening screw,
so that the hole position does not move.

4 Diagnosing the DVDM Assy

① Remove two screws
② Disconnect all flexible cables and connectors from product
③ Remove the mechanism section
④ Remove two screws
⑤ Remove the DVDM Assy

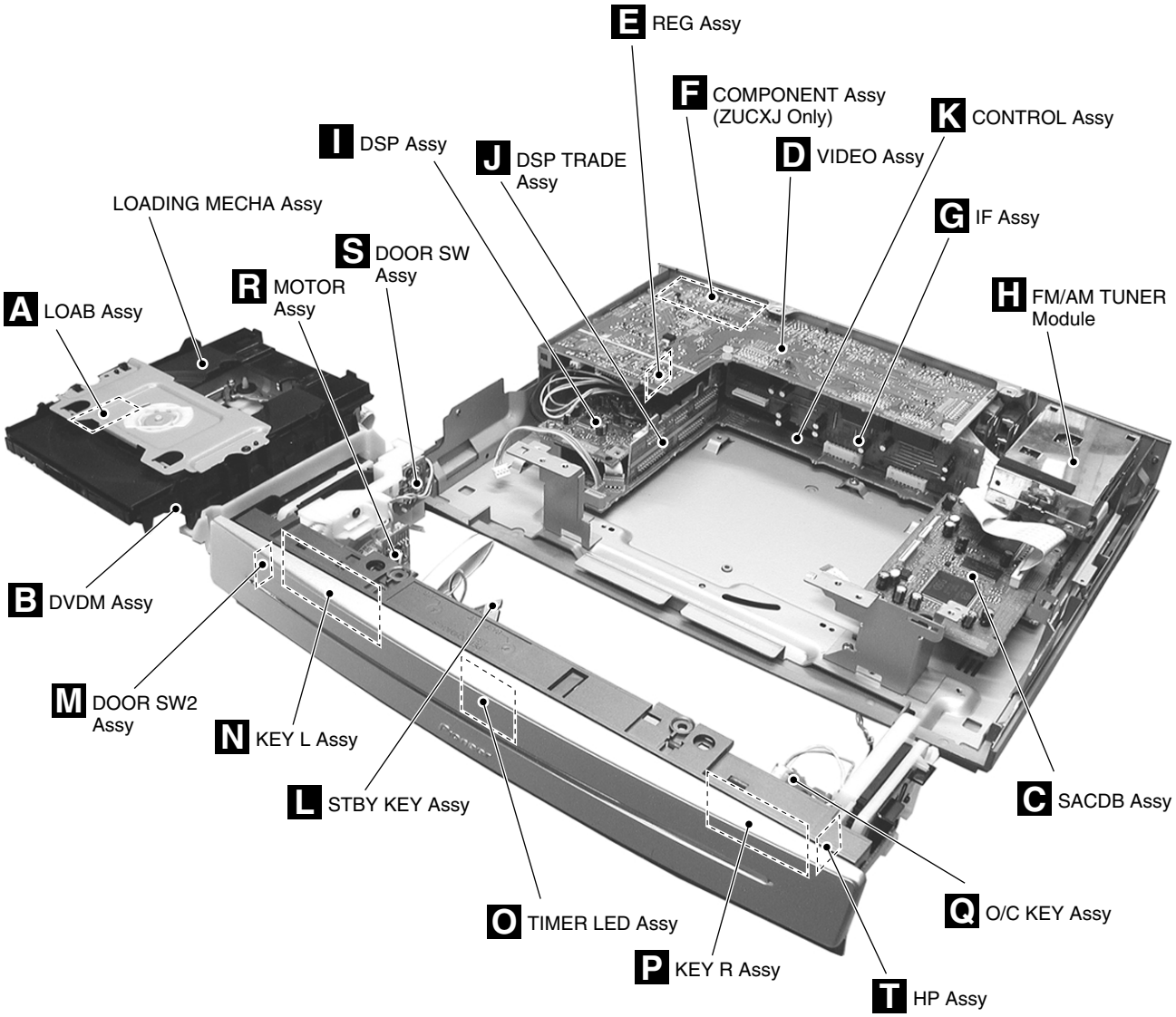


⑥ Connect all flexible cables and connectors with product
⑦ Styling the mechanism section as figure below

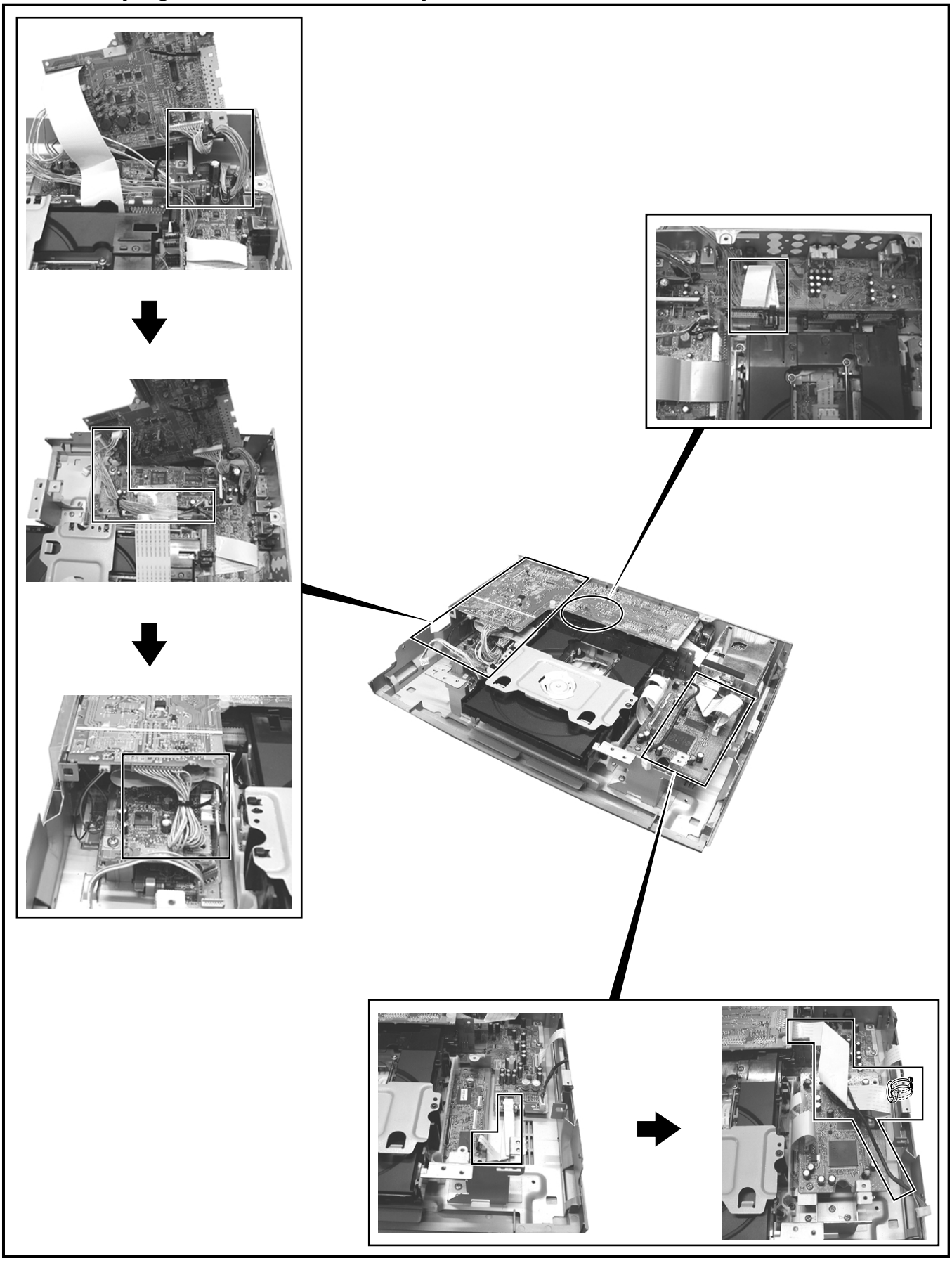


Diagnosis

● PCB Location



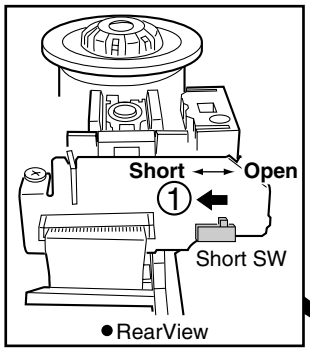
☞Cable Styling in the Main Unit Assembly

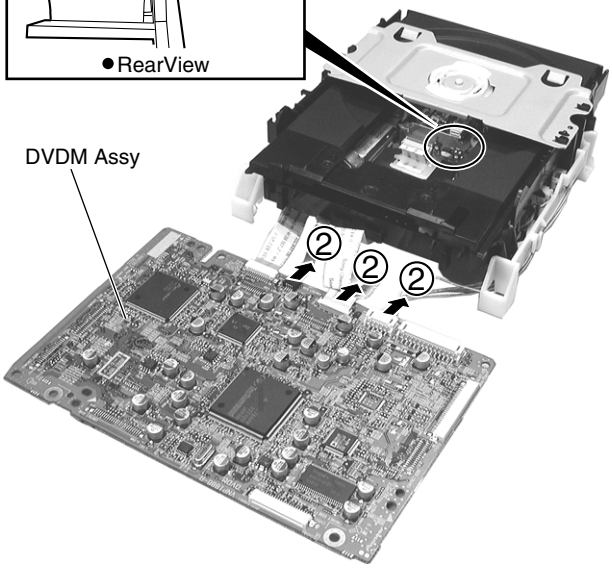


5 Traverse Mechanism Assy-S and Pickup Assy-S

① Turn the short switch to short side

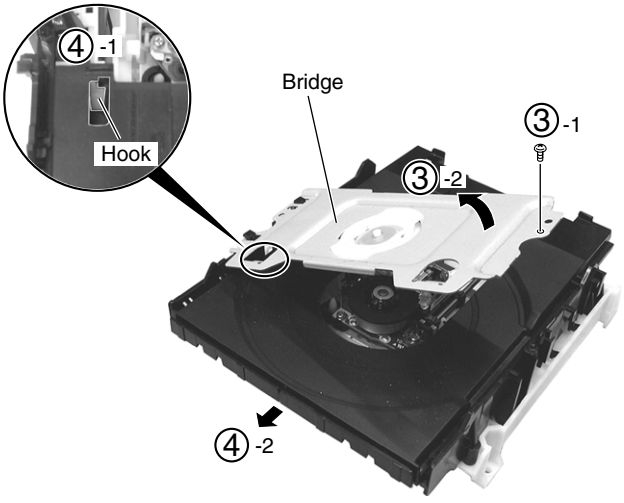
② Disconnect three connectors





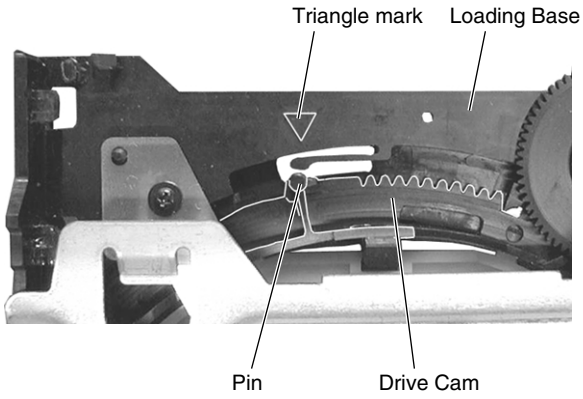
③ Remove a screw to remove the Bridge

④ Pull out the tray and remove it while unhooking a hook



☞Caution in the tray insertion

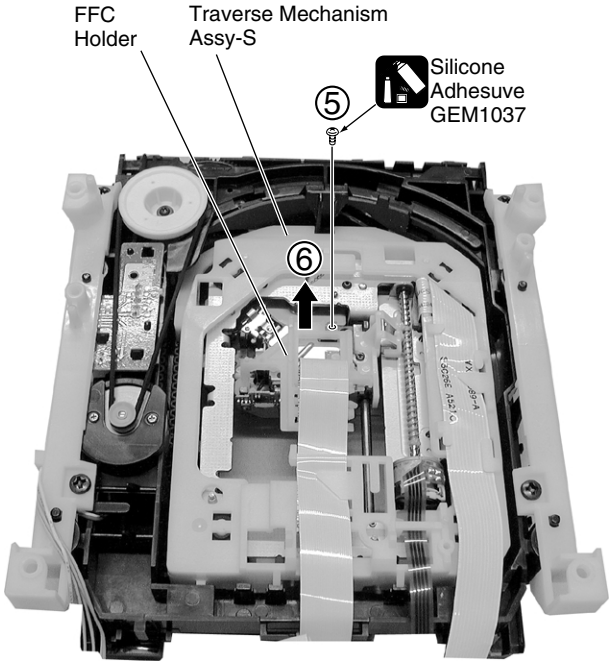
In the tray insertion, insert it after mathing a triangle mark of the Loading Base and a position of pin of the Drive Cam.



⑤ Remove a screw

Cautions :
Screw is locked with Silicone Adhesive.
Please lock it with Silicone Adhesive when installs it.

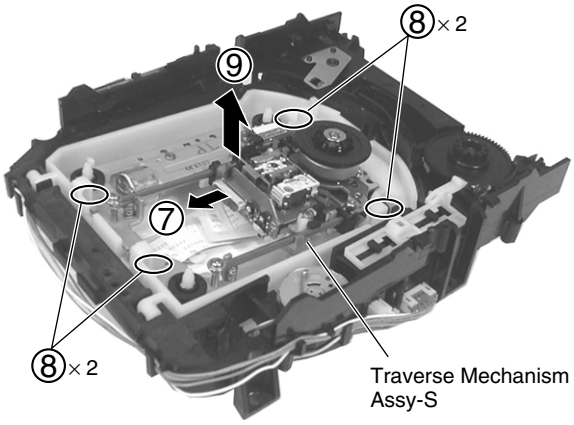
⑥ Remove the FFC Holder with the state which Flexible Cable was atatched



●Bottom View

● When Removing The Traverse Mechanism Assy-S

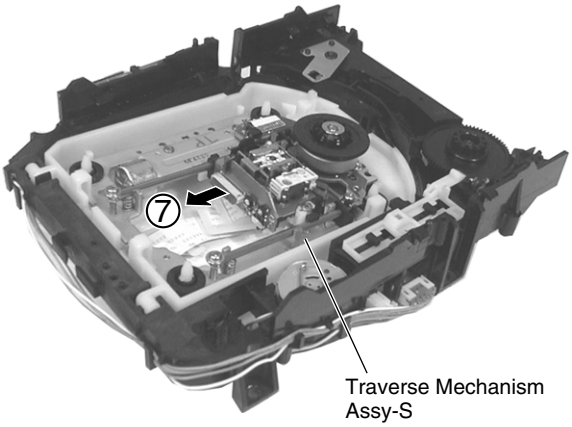
⑦ Remove the Pickup Flexible Cable
⑧ Unhook four position
⑨ Remove the Traverse Mechanism Assy-S



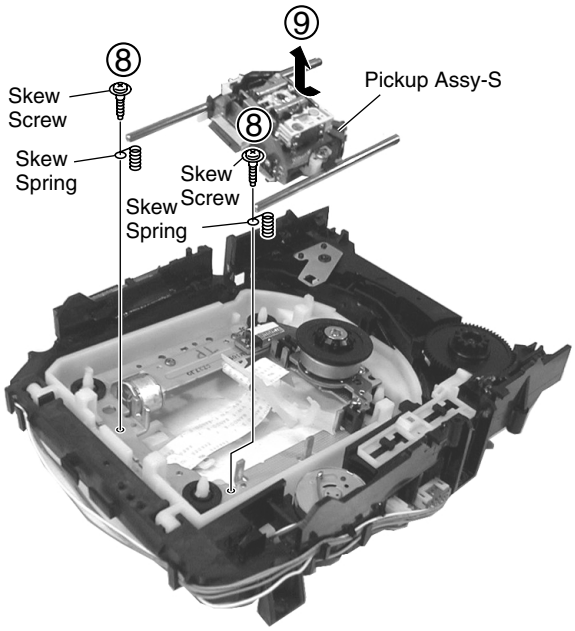
Exchange

● When Removing The Pickup Assy-S

⑦ Remove the Pickup Flexible Cable

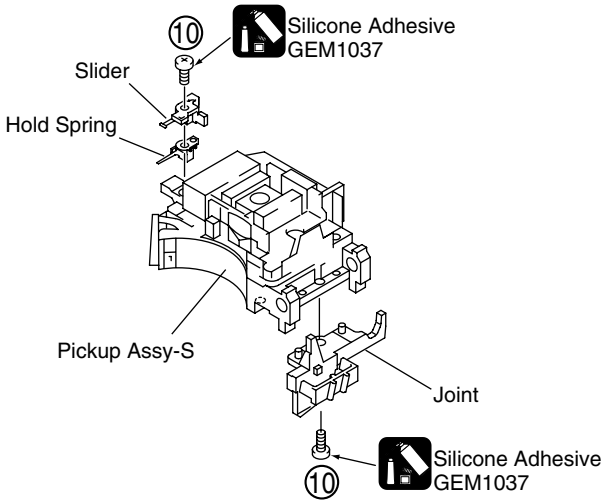


⑧ Remove two skew screws and two skew springs
⑨ Remove the Pickup Assy-s



⑩ Remove two screws

Cautions :
Screw is locked with Silicone Adhesive.
Please lock it with Silicone Adhesive when installs it.

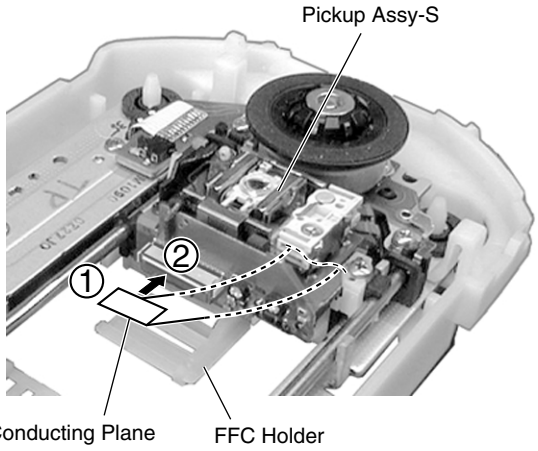


Exchange

☞STYLING THE PICKUP FLEXIBLE CABLE

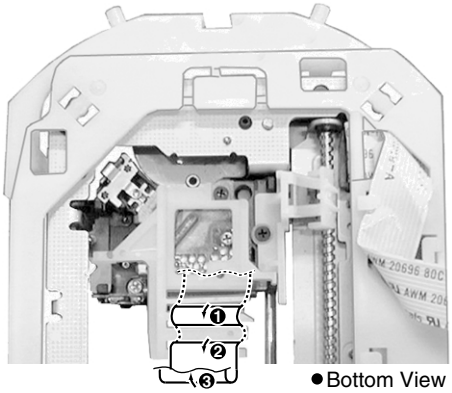
① FOLD a edge of lining part of the Pickup Flexible Cable.

② Insert the Pickup Flexible Cable in connector, and lock it surely.



Caution :
Move the Pickup to the innermost of the disc

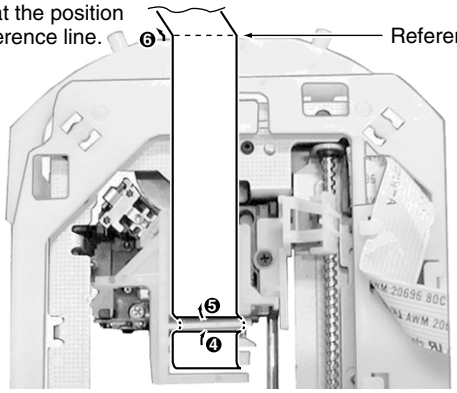
③ Perform the styling as shown in figure below.



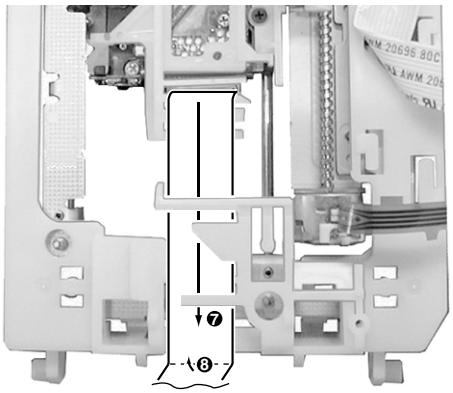
● Bottom View

Fold at the position of reference line.

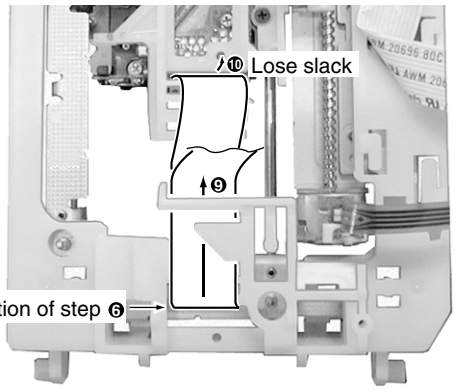
Reference line



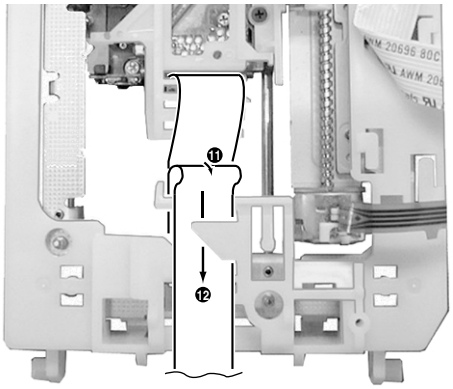
● Bottom View



● Bottom View



● Bottom View



● Bottom View

7.2 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

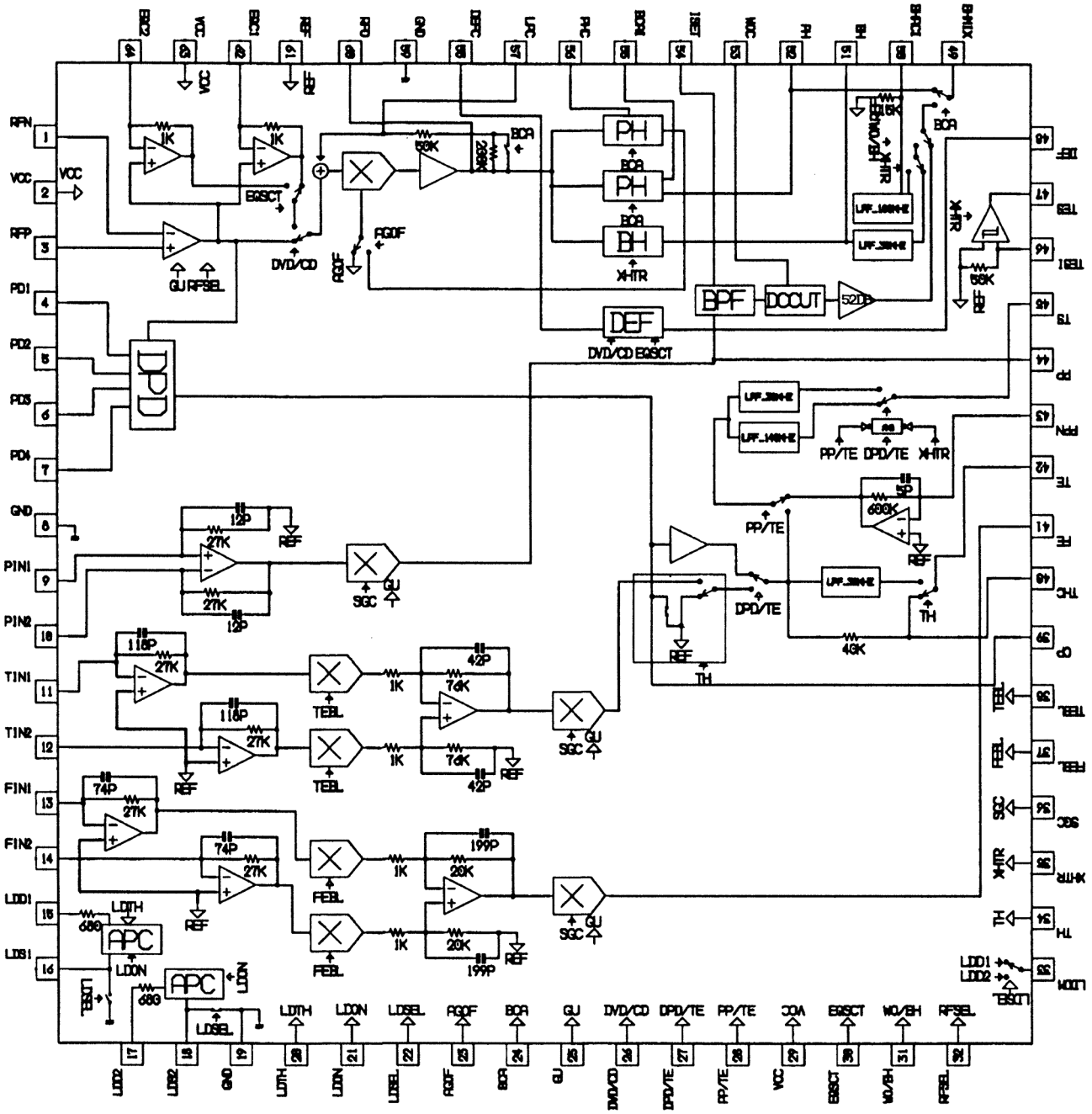
● List of IC

LA9704W, LC78652W, BA6664FM, M56788AFP, SM8707HV, PD6345A, PE5286A, M65776AFP, CXD2753R, DSD1702EG, LA73054, PDC099A, LC75344M, PD5797A, PD3430A

■ LA9704W (DVDM ASSY : IC101)

• RF IC

● Block Diagram



● Pin Function

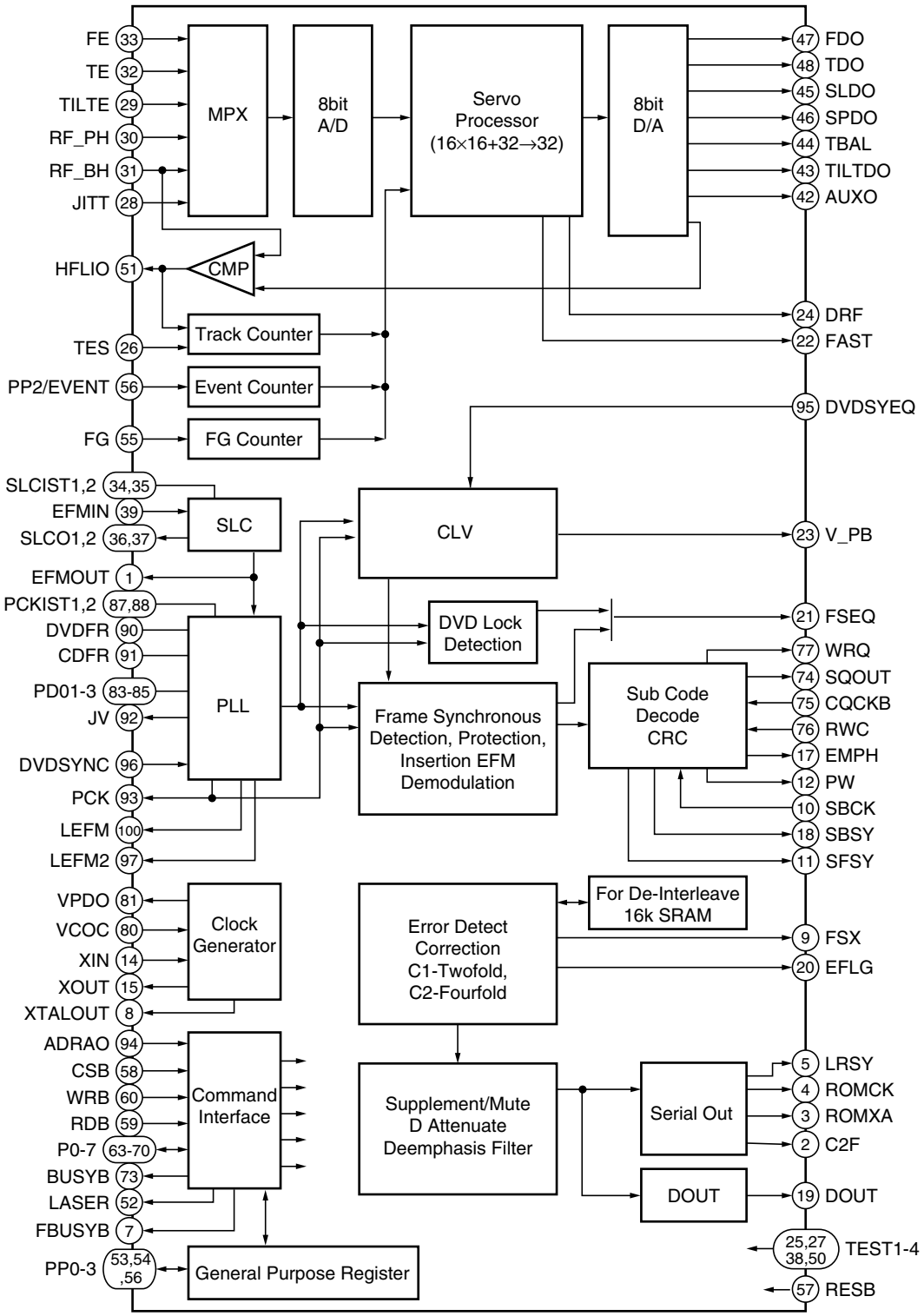
No.	Pin name	Pin Functions
1	RFN	RF- input
2	VCC	Power supply terminal (for DPD)
3	RFP	RF+ nput
4	PD1	Pickup signal input
5	PD2	
6	PD3	
7	PD4	
8	GND	Ground (for DPD)
9	PIN1	Pickup signal input
10	PIN2	
11	TIN1	
12	TIN2	
13	FIN1	
14	FIN2	
15	LDD1	APC1 output
16	LDS1	APC1 monitor input
17	LDD2	APC2 output
18	LDS2	APC2 monitor input
19	GND	Ground (Servo system)
20	LDTH	APC1 threshold change (H: VCC-1.5V, L: 180mV)
21	LDON	Laser ON terminal (H: ON)
22	LDSEL	APC change terminal (H: APC1)
23	AGOF	RFAGC off terminal
24	BCA	PH electric discharge coefficient change (H: BCA mode)
25	GU	RF, Servo signal gain up terminal (H: Gain up)
26	DVD/CD	RF- equalizer band change terminal (H: DVD)
27	DPD/TE	TE output change terminal (H: DPD)
28	PP/TE	TS output change terminal (H: PP)
29	VCC	Power supply terminal (Servo system)
30	EQSCT	EQ change for CD (H: 62 pin choice)
31	WO/BH	BHMIX output change terminal (H: WOBLE)
32	RFSEL	RF amplifier gain change (H: 6dB up)
33	LDDM	LDD monitor terminal
34	TH	Tracking hold (H: hold)
35	XHTR	Tracking, Bottom band change (L: High bandwidth)
36	SGC	Servo gain control terminal (FE, PP, TE)
37	FEBL	FE balance adjustment terminal
38	TEBL	TE balance adjustment terminal
39	CP	Resistance for charge pump gain setting, a condenser connection terminal
40	THC	Volume connection terminal for tracking hold
41	FE	Focus error output
42	TE	Tracking error output
43	PPN	Ohms connection terminal for push-pull gain setting
44	PP	Push-pull output terminal

No.	Pin name	Pin Functions
45	TS	Tracking cross signal output
46	TESI	TES comparator input terminal
47	TES	TES output
48	DEF	Deffect search
49	BHMIX	PH, BH, woble change output
50	BHACI	BH–AC input
51	BH	RF bottom detection output
52	PH	RF peak detection output
53	WOC	Volume connection terminal for DC cut
54	ISET	Ohms connection terminal for BPF center frequency setting
55	BCAI	Ohms connection terminal for peak hold detection fixed number setting (In BCA)
56	PHC	PH detection condenser connection terminal for RF-AGC
57	LPC	Condenser connection terminal for RF DC servo
58	DEFC	Volume connection terminal for deffect search
59	GND	Ground (RF system)
60	RFO	RF output terminal
61	REF	Reference output terminal
62	EQC1	Equalizer setting terminal for CD
63	VCC	Power supply terminal (RF system)
64	EQC2	Equalizer setting terminal for CD

■ LC78652W (DVDM ASSY : IC201)

• Servo DSP IC

● **Block Diagram**



● Pin Function

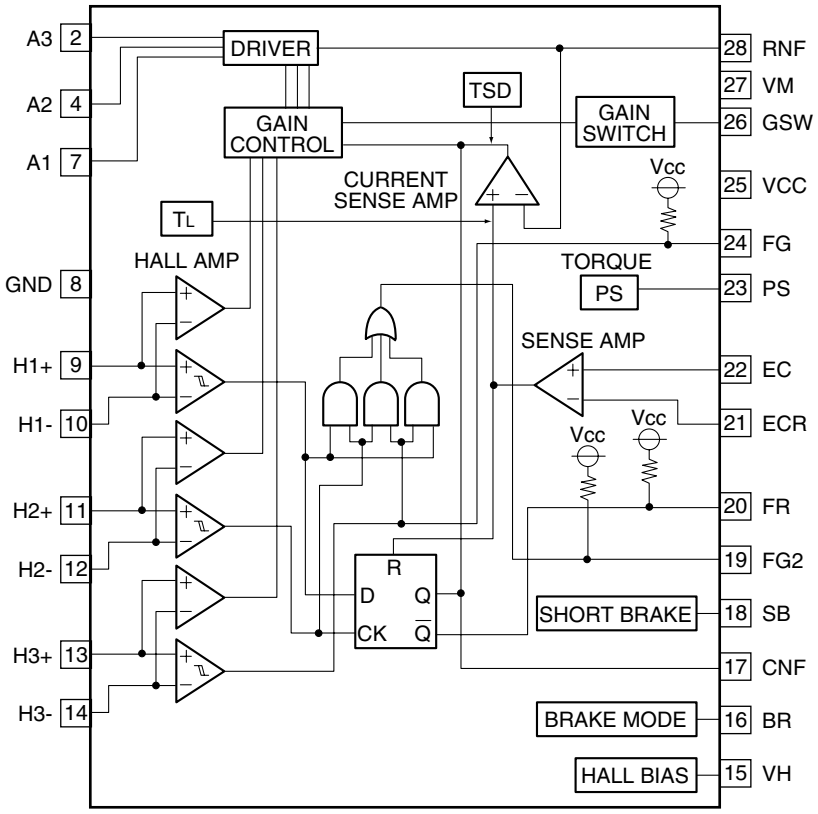
No.	Pin Name	I/O	Pin Function
1	EFMOUT	O	Output the state that was binary-stated value EFM
2	C2F	O	C2 flag output
3	ROMXA	O	CD-ROM data output
4	ROMCK	O	Shift clock output for CD-ROM data output
5	LRSY	O	L/R clock output for CD-ROM data output
6	PP3	I/O	General-purpose port input/output / DVD sync. signal input N ch-OD output
7	FBUSYB	O	Busy signal output of DSP process operation N ch-OD output
8	XTALOUT	O	External system clock output
9	FSX	O	CD 1 frame sync. signal output
10	SBCK	I	Subcode reading out clock input
11	SFSY	O	Frame sync. signal output of subcode
12	PW	O	Subcode P, Q, R, S, T, U, V and W output
13	VSS	–	GND pin
14	XIN	I	Connect a crystal resonator (16.9344MHz)
15	XOUT	O	Connect a crystal resonator
16	DVDD1	–	3.3V power supply of the oscillation circuit
17	EMPH	O	Monitor pin of the deemphasis
18	SBSY	O	Sync. signal output of the subcode block
19	DOUT	O	Audio EIAJ data output
20	EFLG	O	Error correction state monitor of the error correction C1 and C2
21	FSEQ	O	Detection monitor of the CD/DVD frame sync. signal
22	FAST	O	Playback speed monitor N ch-OD output
23	V_PB	O	Monitor output of the rough servo/CLV control
24	DRF	O	In focus monitor
25	TEST3	I	Test input 3
26	TES	I	Tracking error signal input
27	TEST2	I	Test input 2
28	JITT	I	Jitter quantity detecting signal input of EFM PLL
29	TILTE	I	Tilt error signal input
30	RF_PH	I	RF peak hold signal input
31	RF_BH	I	RF bottom hold signal input
32	TE	I	Tracking error signal input
33	FE	I	Focus error signal input
34	SLCIST1	–	Current setting pin 1 of the constant current charge pump for SLC
35	SLCIST2	–	Current setting pin 2 of the constant current charge pump for SLC
36	SLCO1	O	Control output 1 for SLC
37	SLCO2	O	Control output 2 for SLC
38	TEST1	I	Test input 1
39	EFMIN	I	EFM/EFM + input
40	AVDD	–	5V power supply of A/D and D/A for servo
41	AVSS	–	GND of A/D and D/A for servo
42	AUXO	O	DA auxiliary output
43	TILTDO	O	Tilt control signal output
44	TBAL	O	Tracking balance control signal output
45	SLDO	O	Sled control signal output
46	SPDO	O	Spindle control signal output
47	FDO	O	Focus control signal output
48	TDO	O	Tracking control signal output
49	VREF	–	Reference level of D/A for servo
50	TEST4	I	Test input 4

No.	Pin Name	I/O	Pin Function
51	HFLIO	I/O	Mirror detection signal input/output
52	LASER	O	Output pin for laser ON/OFF control
53	PP0/DVD_CDB	I/O	General-purpose port input/output / Disc discrimination signal output
54	PP1/CRCERRB	I/O	General-purpose port input/output / Subcode CRC result signal output
55	FG	I	FG counter input
56	PP2/EVENT	I/O	General-purpose port input/output / Event counter input
57	RESB	I	Reset input
58	CSB	I	Chip select input
59	RDB	I	Internal state reading signal input
60	WRB	I	Command / data writing signal input
61	DVDD2	–	5V power supply
62	VSS	–	GND
63	P0	I/O	Command / data input/output
64	P1		
65	P2		
66	P3		
67	P4		
68	P5		
69	P6		
70	P7		
71	VSS	–	GND
72	DVDD1	–	3.3V power supply for internal
73	BUSYB	O	Busy signal output of command process
74	SQOUT	O	Serial output of subcode Q
75	CQCKB	I	Shift clock input for subcode Q data output
76	RWC	I	Update permission input of subcode Q
77	WRQ	O	Read out ready monitor of subcode Q
78	AVSS	–	PLL GND for internal system clock
79	VRPFR	–	VCO oscillation range setting of PLL for system clock
80	VCOC	I	Connect a PLL filter for system clock
81	VPDO	O	
82	AVDD	–	PLL 5V power supply for system clock
83	PDO1	I/O	PLL filter connection pin 1 for EFM playback
84	PDO2	I/O	PLL filter connection pin 2 for EFM playback
85	PDO3	I/O	PLL filter connection pin 3 for EFM playback
86	AVSS	–	PLL GND for EFM playback
87	PCKIST1	–	Current setting 1 of PLL constant current charge pump for EFM playback
88	PCKIST2	–	Current setting 2 of PLL constant current charge pump for EFM playback
89	AVDD	–	PLL 5V power supply for EFM playback
90	DVDFR	–	VCO oscillation range setting of PLL for EFM playback 1
91	CDFR	–	VCO oscillation range setting of PLL for EFM playback 2
92	JV	O	Jitter output of PLL clock for EFM playback
93	PCK	O	Bit clock output for EFM playback
94	ADRAO	I	Address input
95	DVDSYEQ	I	DVD synchronize pulse input
96	DVDSYNC	I	DVD synchronous signal input
97	LEFM2	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 2
98	DVDD1	–	3.3V power supply for I/O
99	VSS	–	GND
100	LEFM	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 1

■ BA6664FM (DVDM ASSY : IC251)

• Spindle Driver

● Block Diagram



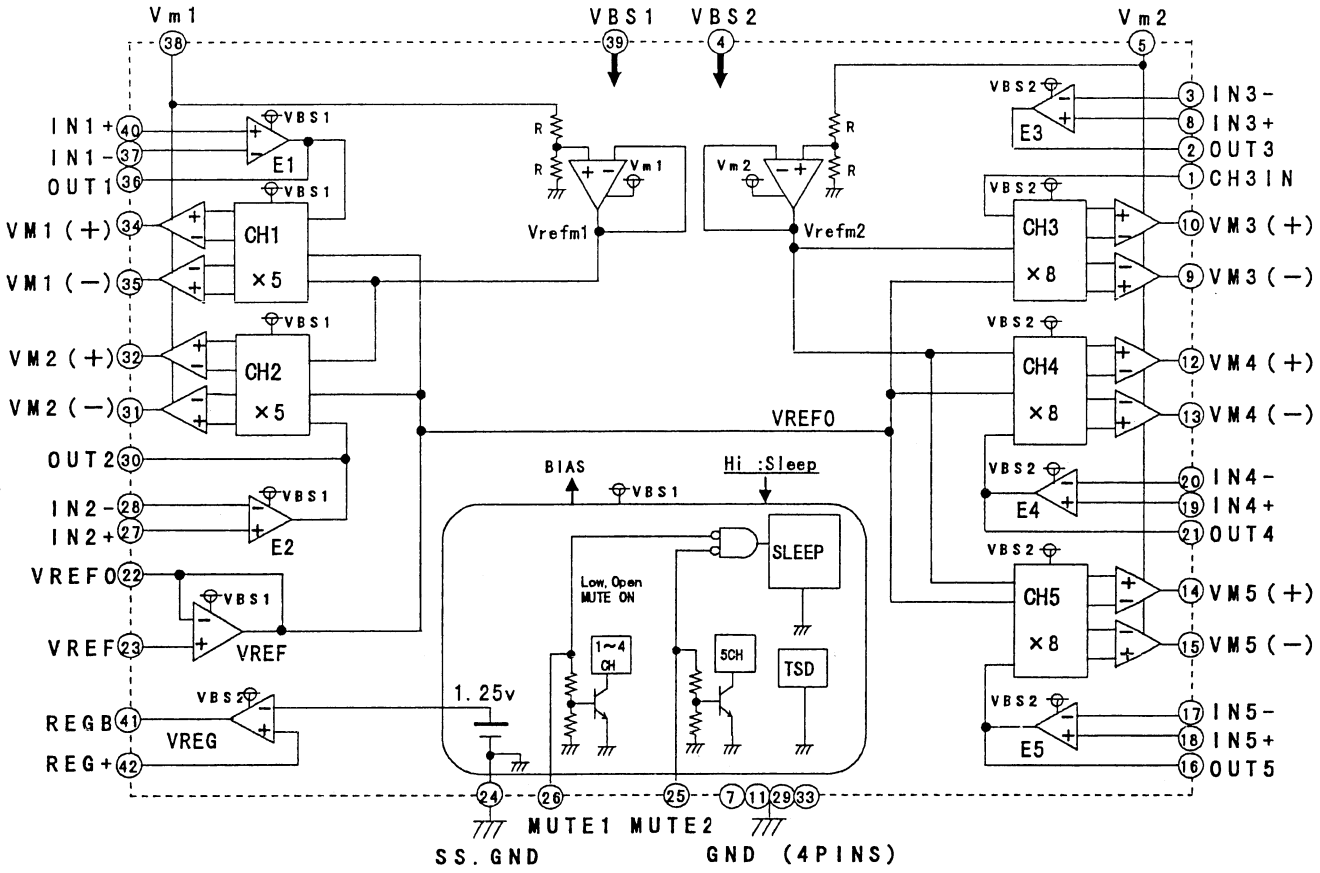
● Pin Function

No.	Pin Name	Pin Function	No.	Pin Name	Pin Function
1	N.C.	N.C.	16	BR	Brake mode switching pin
2	A3	Output pin	17	CNF	Capacitor connection pin for phase compensation
3	N.C.	N.C.	18	SB	Short brake pin
4	A2	Output pin	19	FG2	FG 3-phase mix signal output pin
5	N.C.	N.C.	20	FR	Rotation detecting pin
6	N.C.	N.C.	21	ECR	Control reference pin of output voltage
7	A1	Output pin	22	EC	Output voltage control pin
8	GND	GND pin	23	PS	Power save pin
9	H1+	Hall signal input pins	24	FG	FG signal output pin
10	H1-		25	VCC	Power supply pin
11	H2+		26	GSW	Gain switching pin
12	H2-		27	VM	Motor power pin
13	H3+		28	RNF	Resistor connection pin for output current detection
14	H3-		FIN	FIN	GND
15	VH	Hall bias pin			

■ M56788AFP (DVDM ASSY : IC351)

• FTS Driver IC

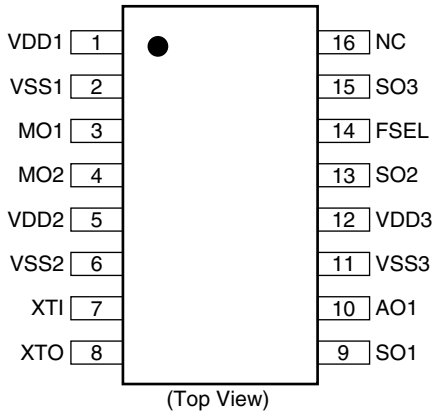
● Block Diagram



SM8707HV (DVDM ASSY : IC481)

• Clock Generate IC

● Pin Arrangement



(Top View)

● Pin Function

No.	Pin name	Dir.	Pin Functions
1	VDD1	PWR	Power supply terminal 1 (digital business)
2	VSS1	GND	Earth terminal 1 (digital business)
3	MO1	OUT	Video output terminal 1 (the 27MHz fixed output)
4	MO2	OUT	Video output terminal 2 (the 27MHz fixed output)
5	VDD2	PWR	Power supply terminal 2 (analog business)
6	VSS2	GND	Earth terminal 2 (analog business)
7	XTI	IN	External clock input terminal or crystal resonator connection
8	XTO	OUT	Crystal resonator connection terminal
9	SO1	OUT	Signal conditioning system output terminal 1 (36.8640MHz fixation)
10	AO1	OUT	Sound output terminal 1 (the 512fs output)
11	VSS3	GND	Earth terminal 3 (digital business)
12	VDD3	PWR	Power supply terminal 3 (digital business)
13	SO2	OUT	Signal conditioning system output terminal 2 (16.9344MHz fixation)
14	FSEL	IN	Sampling frequency change terminal FSEL= "L": fs=48kHz FSEL= "H": fs=44.1kHz (There is inside pull-up resister, Schmidt trigger input)
15	SO3	OUT	Signal conditioning system output terminal 3 (33.8688MHz fixation)
16	NC	–	Unused terminal

■ PD6345A (DVDM ASSY : IC601)

• FR CPU

● Pin Function

No.	Mark	Pin Name	I/O	Pin Function
1	P20/D16	D0	I/O	Data bus input/output
2	P21/D17	D1		
3	P22/D18	D2		
4	P23/D19	D3		
5	P24/D20	D4		
6	P25/D21	D5		
7	P26/D22	D6		
8	P27/D23	D7		
9	P30/D24	D8		
10	P31/D25	D9		
11	P32/D26	D10		
12	P33/D27	D11		
13	P34/D28	D12		
14	P35/D29	D13		
15	P36/D30	D14		
16	P37/D31	D15		
17	VSS	GND	–	Ground
18	P40/A00	A0	O	Address bus output
19	P41/A01	A1		
20	P42/A02	A2		
21	P43/A03	A3		
22	P44/A04	A4		
23	P45/A05	A5		
24	P46/A06	A6		
25	P47/A07	A7		
26	VCC3	V+3.3D	–	Power supply
27	VCC2	V+2.5D	–	Power supply
28	P50/A08	A8	O	Address bus output
29	P51/A09	A9		
30	P52/A10	A10		
31	P53/A11	A11		
32	P54/A12	A12		
33	P55/A13	A13		
34	P56/A14	A14		
35	P57/A15	A15		
36	VSS	GND	–	Ground
37	P60/A16	A16	O	Address bus output
38	P61/A17	A17		
39	P62/A18	A18		
40	P63/A19	A19		
41	P64/A20	A20		
42	P65/A21	A21		
43	P66/A22	A22		
44	P67/A23	WBL	O	For Wobble detection corresponding to DVD R/W (main)
45	DAVS	GND	–	Ground
46	DAVC	V+3.3D	–	Power supply
47	DA0	STEP1	I	For stepping motor control
48	DA1	STEP2	I	
49	DA2	LODRV	I	Loading, door and select motor drive

No.	Mark	Pin Name	I/O	Pin Function
50	AN0	NC	I	NC
51	AN1	NC	I	NC
52	AN2	NC	I	NC
53	AN3	XOEM	I	OEM model protection input
54	AN4	LDREAD	I	Input for LD current value indication
55	AN5	NC	I	NC
56	AN6	NC	I	NC
57	AN7	LODPOS	I	Loading clamp position SW input
58	AVCC	V+3.3D	–	Power supply
59	AVRH	V+3.3D	–	Power supply
60	AVSS/AVRI	GND	–	Ground
61	VSS	GND	–	Ground
62	PP0/ATGX	SLDPOS	I	SW input of slider inside position
63	PP1/FRCK	GSW	O	Gain up at ACBR (at ACBR: H, others: L)
64	PP2/IN0	780ON	I	ON/OFF control signal of 780nm laser diode
65	PP3/IN1	GU	O	RF, servo signal gain up terminal (H: Gain up)
66	PP4/IN2	XMON	O	Mute of DRV (spindle motor ON: H)
67	PP5/IN3	XDRVMUT	O	FTS driver mute output
68	PP6	LT1_3V	O	Communication response to the FL controller
69	PP7	XRDY_3V	I	Communication request from the FL controller
70	VCC3	V+3.3D	–	Power supply
71	VCC2	V+2.5D	–	Power supply
72	PO0/OC0	XCURDET	I	Actuator current detection input Servo OFF for "L" 300ms
73	PO1/OC1	XCBUSY	I	Busy signal of command process Command acceptable : "L"
74	PO2/OC2	XDSPRST	O	Servo DSP reset
75	PO3/OC3	BCA	–	BCA read signal (at BCA read: H) (Not used)
76	PO4/OC4	NC	I	NC
77	PO5/OC5	PPCNT	O	Switch of TZC in WBL traversal (at PP: H)
78	PO6/OC6	XDFINH	O	Defect signal control (DEFECT ON: Hi-Z; OFF: "L")
79	PO7/OC7	DPD/TE	O	H=1 beam, L=3 beams
80	VSS	GND	–	Ground
81	PN0/AIN0	DVD/XCD	O	RF EQ switching signal at DVD/CD "H": DVD, "L": CD
82	PN1/BIN0	AGOFF	O	H": Turn off AGC of RFI
83	PN2/AIN1	650X780	O	780nm/650nm switching signal
84	PN3/BIN1	LD ON	O	ON/OFF control signal of laser diode
85	PN4/AIN2	WBLSEL	O	NC
86	PN5/BIN2	RFSEL	O	RF amplifier gain change terminal (H: Gain up)
87	PN6/AIN3	XCD2X	O	For VCD double speed playback
88	PN7/BIN3	OEICG	O	H": Gain of OEIC up to 6d
89	PM0/ZIN0	EN33M	O	NC
90	PM1/ZIN1	EN24M	O	NC
91	PM2/ZIN2	V SEL	O	(Composite, S) / (YCbCr) or (RGB) switch
92	PM3/ZIN3	V SEL2	O	(Composite) of scart terminal / (S) switch
93	PL0/SDA1	SDAI	12C Serial	12C control lines
94	PL1/SDA0	NC	–	NC
95	PL2/SCL1	SCLI	12C Serial	12C control lines
96	PL3/SCL0	NC	–	NC
97	PL4	CTS	I	RS-232C clear to send input
98	PL5	DTR	O	RS-232C clear to send output
99	PL6/UC0	NC	O	NC
100	VSS	GND	–	Ground

No.	Mark	Pin Name	I/O	Pin Function
101	PK0/TIN0	XVQERST	O	VQE3 reset signal
102	PK1/TIN1	XCSPRO1	–	Serial communication enable of the progressive converter IC
103	PK2/TIN2	XCSVQE5	–	Serial communication enable of VQE5 IC
104	PK3/TIN3	EN16M	O	N.C.
105	PK4/TOT0	44X48	O	DAC and DASP supply clock fs 44/48 selection
106	PK5/TOT1	1394XRDY	I	N.C.
107	PK6/TOT2	AOSEL1	O	AV-1/audio DSP switch (front L/R data)
108	PK7/TOT3	P/XI	O	Progressive/Inter race change signal
109	VCC3	V+3.3D	–	Power supply
110	VCC2	V+2.5D	–	Power supply
111	PJ0/INT0	XINT0	I	
112	PJ1/INT1	XINT1	I	
113	PJ2/INT2	XIRQ10	I	MY chip interrupt #0
114	PJ3/INT3	XIRQ11	I	MY chip interrupt #1
115	PJ4/INT4	XABUSY	I	Busy signal of DSP process operation "L"
116	PJ5/INT5	THLD	I	Playback speed monitoring signal
117	PJ6/INT6	SBSY	I	Sync. signal of subcode block (period SO+SI "H")
118	PJ7/INT7	N.C.	I	N.C.
119	PI0/SI0	SSI	I	Serial bus data input
120	PI1/SO0	SSO_3V	O	Serial bus data output
121	PI2/SCK0	SSCK_3V	I	Serial bus clock input
122	PI3/SI1	RXD_3V	I	RS-232C RXD
123	PI4/SO1	TXD_3V	O	RS-232C TXD
124	PI5/SCK1	NC	O	NC
125	PH0/SI2	1394LT	O	NC
126	PH1/SO2	DSPICM	I	Audio system DSP serial communication Readv signal
127	PH2/SCK2	NC	I	NC
128	MD0	GND	–	Ground
129	MD1	GND	–	
130	MD2	GND	–	
131	VSS	GND	–	Ground
132	VCC2	V+2.5D	–	Power supply
133	VSS	GND	–	Ground
134	X1	EXTAL	O	
135	X0	XTAL	I	
136	VCC3	V+3.3D	–	Power supply
137	PC0/DREQ2	RESET1	O	Audio system DSP reset
138	PC1/DACK2	XCSADSP0	O	Chip select port for audio system DSP
139	PC2/DEOP2	XCSDF2	O	DAC chip select (for surround system L/R)
140	PB0/DREQ0	XDREQ0	I	DMA response output to BY Chip
141	PB1/DACK0	DACK0	O	DMA request input from BY Chip
142	PB2/DEOP0	ENCD	O	N.C.
143	PB3/DREQ1	XDREQ1	I	DMA response output to AV-1 Chip
144	PB4/DACK1	XDACK1	O	DMA request input from AV-1 Chip
145	PB5/DEOP1	EN_FLOW	O	N.C.
146	PB6/IOWRX	XCOMP	O	RGB/color difference change of video driver
147	PB7/IORDX	XCSDF3	O	N.C.
148	VSS	GND	–	Ground
149	PA0/CSOX	XCS20	O	Chip select output to Flash ROM
150	PA1/CS1X	XCS6	O	AV-1 Chip select

No.	Mark	Pin Name	I/O	Pin Function
151	PA2/CS2X	XCS3	O	Chip select of PD4995A (MY Chip)
152	PA3/CS3X	XCS4	O	Chip select of servo DSP
153	PA4/CS4X	XCS23	O	Chip select output to SRAM (1M)
154	PA5/CS5X	N.C.	O	N.C.
155	PA6/CS6X	N.C.	O	N.C.
156	PA7/CS7X	N.C.	O	N.C.
157	VCC3	V+3.3D	–	Power supply
158	VCC2	V+2.5D	–	Power supply
159	NMIX	–	–	V+3.3D fixed
160	HSTX	–	–	V+2.5D fixed
161	INITX	XINIT	I	
162	P80/RDY	RDY	I	
163	P81/BGRNTX	XAMUTE	I	Final stage mute of 2 ch audio output
164	P82/BRQ	XMMUTE	O	Audio multi channel mute
165	P83/RDX	XRD	O	
166	P84/WR0X	XWR0	O	
167	P85/WR1X	XWR1	O	
168	VSS	GND	–	Ground
169	P90/SYSCLK	SYSCLK	O	N.C.
170	P91	DFRST	–	DAC reset (for front L/R)
171	P92/MCLK	DFRST1	–	DAC reset (for center, surround and LFE)
172	P93	XCSDF0	O	DAC chip select (¨ XLAT3)
173	P94/LBAX	XCSDF1	O	DAC chip select for center, surround and LFE
174	P95/BAAX	XAQRST	O	AQE reset
175	P96	XCSAQE	O	AQE chip select
176	P97/WEX	TM ENT	I	Test mode entry

■ PE5286A (DVDM ASSY : IC701)

• DVD Data Processor

● Pin Function

No.	Pin name	Dir.	Pin Functions
3, 40, 50, 54, 84, 103, 107, 145, 154, 158, 207	VDD3.3	–	It is a power supply of digital circuit. Be connected to +3.3V.
15, 18, 27, 53, 64, 74, 78, 92, 104, 130, 157, 164, 183, 191, 208	VDD2.5	–	It is a power supply of digital circuit. Be connected to +2.5V.
1, 2, 16, 17, 26, 41, 51, 52, 63, 73, 79, 85, 91, 105, 106, 131, 144, 150, 155, 156, 178, 182, 190	GND	–	It is a ground of digital circuit.
167, 171, 175	NC	–	It is a non-use pin. Fix it in GND or VDD.
165 166	AVDD	–	It is a power supply supply terminal for built-in analog-to-digital converter. Supply +2.5V (analog).
176 177	AGND	–	It is a GND terminal for built-in D/A converter.
6	BUNRI	IN	It is a separation test control terminal of inside RAM. Input LOW in use usually.
90	TMC1	IN	It is a test terminal. Input LOW in use usually.
148	TMC2	IN	
4	DMCK/RF_A	IN	It is the system clock input of DVD/CD-ROM decoder. Input 10-54MHz.
189	CKCD	IN	It is master clock of an audio system I/F block. In audio out of a CD, input 16.9MHz of reference clock.
5	DMACKI/PD4	IN	Fix unused time (unused usually) in GND or VDD.
149	VCOCLK	IN	With system clock of spindle demodulator, it is connected to VCO of outside charge account.
161	XRESET	IN	By the input of a LOW level, It initialize the whole large scale integrated circuit system.
135	SA19	I/O	Connect address bus of central processing unit.
134	SA18		
133	SA17		
132	SA16		
129	SA15		
128	SA14		
127	SA13		
126	SA12		
125	SA11		
124	SA10		
123	SA9		

No.	Pin name	Dir.	Pin Functions
122	SA8	IN	Connect address bus of central processing unit.
121	SA7		
120	SA6		
119	SA5		
118	SA4		
117	SA3		
116	SA2		
115	SA1		
114	SA0		
99	SAD7	I/O	Connect a data bus of central processing unit.
100	SAD6		
101	SAD5		
102	SAD4		
108	SAD3		
109	SAD2		
110	SAD1		
111	SAD0		
97	XSRD	IN	Be connected to a RD signal of central processing unit.
98	XSWR	IN	Be connected to a WR signal of central processing unit.
96	XSCL1	IN	It is chip select signal from central processing unit. XSRD/XSWR becomes effective at the time of LOW this signal.
95	XSWAIT	OUT	It is the WAIT output for central processing unit. This terminal must leave access from central processing unit at the time of LOW.
94	XSDREQ	OUT	It is a DMA demand for central processing unit. LOW level hip of this terminal falls down and activates DMA transfer with an edge.
93	SDACK	IN	It is DMA answer back. Data are output with HIGH this signal by SAD (7:0).
112	XIRQ10	OUT	It demand interrupt for central processing unit with LOW. Both terminals can set it with a register whether they output it.
113	XIRQ11		
141	FGPL/PE3	IN	Input a turn pulse from spindle motor.
147	FPWM	OUT	It is 7bitPWM output terminal for FG servo. It is the 3 value output of HIGH,LOW, high impedance.
146	VPWM	OUT	It is 5bitPWM output terminal for speed servo. It is the 3 value output of HIGH,LOW, high impedance.
143	PPWM	OUT	It is pulse width modulation output terminal for phase servo. It is the 3 value output of HIGH,LOW, high impedance.
142	RERR	OUT	It is control output for rough servo. It is the 3 value output of HIGH,LOW, high impedance.
31	PA7	I/O	It is general-purpose I/O port. By setting of a $70 register, You can select a function. CDDO inputs a digital out signal from a CD decoder. DIFOUT is digital audio output terminal based on IEC958. BCA is terminal to input a BCA code into. RWDIN is terminal to input a WOBBLE signal into. BCA/RWDIN terminal becomes necessary with RW revitalization machines.
32	PA6		
33	PA5		
34	PA4		
35	CDDO/PA3		
36	DIFOUT		
196	BCA/PA1		
195	RWDIN/PA0		

No.	Pin name	Dir.	Pin Functions
138	PD7/STATUS2	OUT	It output a various monitor signal (STATUS (2:0)). By setting of a $ 70 register, You can use it as a general-purpose I/O port port.
139	PD6/STATUS1		
140	PD5/STATUS0		
151	DUTY50	OUT	It always output a pulse of duty 50%. It give reference voltage of a various PWD signal of the recovery system.
160	ASC	OUT	It output frequency error of a sink period as a PWD pulse.
153	APC	OUT	It output a phase error of phase locked loop as a PWD pulse.
159	ATC	OUT	It output a direct current error of a RF signal as a PWD pulse.
152	AFC	OUT	It output VC OCL k and frequency error of reference clock as a PWD pulse. It is the 3 value output of HIGH,LOW, high impedance.
163	DEFECT/PE1	IN	It is the diffect signal input from the outside. Then a phase error of phase locked loop outputs this terminal in HIGH (APC), and it is done front value hold.
162	T_DET/PC7	OUT	It output a tangential-tilt search result as a pulse width modulation pulse.
70	DA13	OUT	It is address signal of DRAM for a VBR buffer.
71	DA12		
72	DA11		
75	DA10		
76	DA9		
77	DA8		
80	DA7		
81	DA6		
82	DA5		
83	DA4		
86	DA3		
87	DA2		
88	DA1		
89	DA0		
39	DD15	I/O	It is a data bus of DRAM for a VBR buffer.
42	DD14		
43	DD13		
44	DD12		
45	DD11		
46	DD10		
47	DD9		
48	DD8		
49	DD7		
55	DD6		
56	DD5		
57	DD4		
58	DD3		
59	DD2		
60	DD1		
61	DD0		

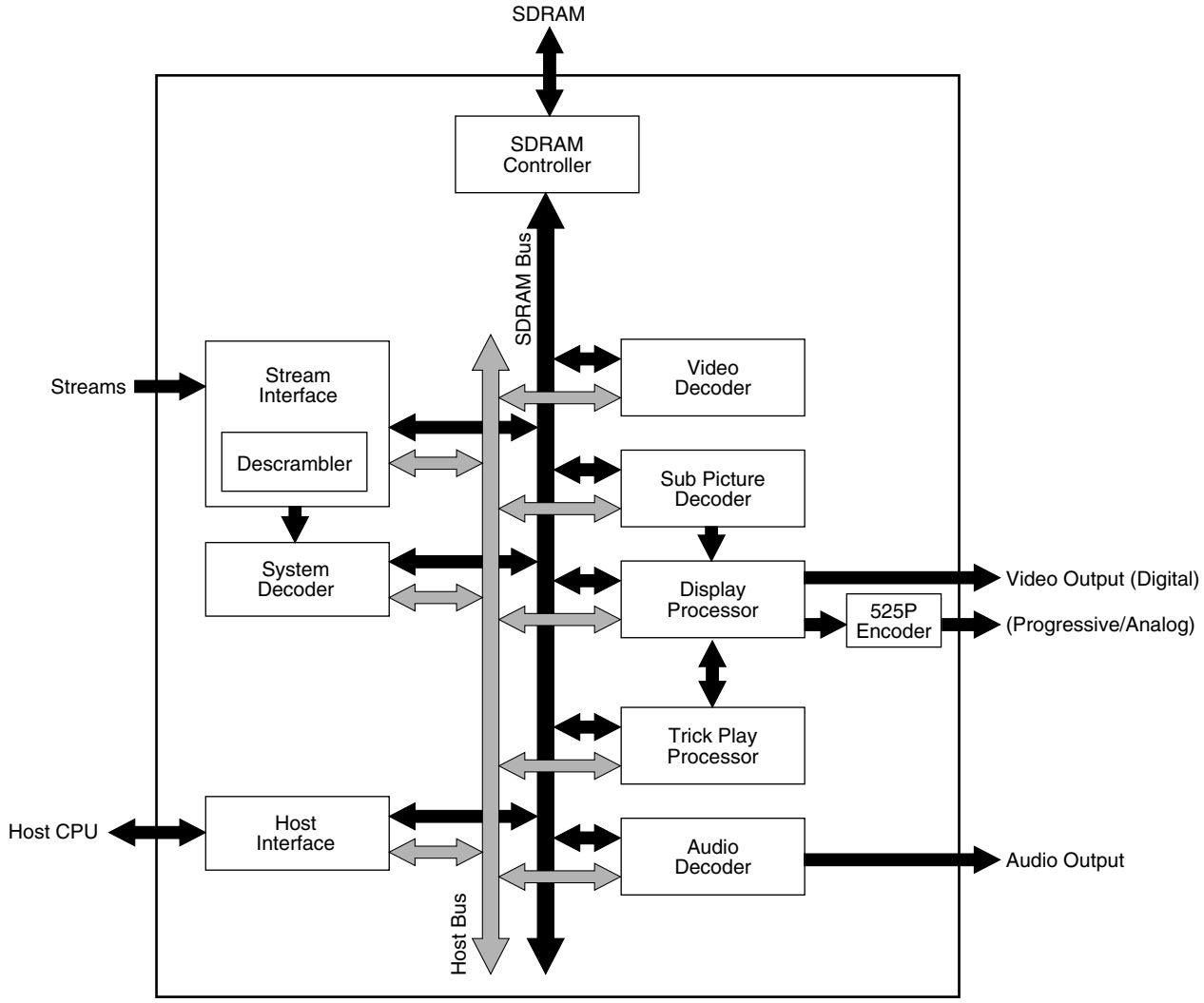
No.	Pin name	Dir.	Pin Functions
69	XDRAS	OUT	It is a RAS signal of DRAM of a VBR buffer.
67	XDCAS/XDCASL	OUT	It is a CAS signal of DRAM of a VBR buffer.
66	XDOE/DQML	OUT	It is an OE signal of DRAM of a VBR buffer.
65	XDWE	OUT	It is a WE signal of DRAM of a VBR buffer.
13	SDATA7	OUT	It is a data output bus of a VIDEO_DMA channel. Be connected to MPEG decoder.
14	SDATA6		
19	SDATA5		
20	SDATA4		
21	SDATA3		
22	SDATA2		
23	SDATA1		
24	SDATA0		
29	SREQ	IN	It is a data transfer demand terminal of a VIDEO_DMA channel. Be connected to MPEG decoder. You can change polarity by setting.
25	XSACK/PC5	OUT	It is a transfer reply terminal of a VIDEO_DMA channel. Be connected to MPEG decoder. Output form varies with setting.
28	XWR	OUT	It is a transfer reply terminal of a VIDEO_DMA channel. Be connected to MPEG decoder. Output form varies with setting.
30	XAVTRM/PC6	OUT	It is a signal to show the top of a sector of transfer data of a VIDEO_DMA channel in.
7	DSPA0/PC0	OUT	When it connects Motorola Digital Signal Processor as destination of an AUDIO_DMA channel, it is the signal which gives a DMA address to Motorola Digital Signal Processor.
8	DSPA1/PC1		
9	DSPA2/PC2		
206	ASDATA0/PB0	I/O	It is general-purpose I/O port. By setting of a $70 register, It become a data output bus of an AUDIO_DMA channel besides a port.
205	ASDATA1/PB1		
204	ASDATA2/PB2		
203	ASDATA3/PB3		
202	ASDATA4/PB4		
201	ASDATA5/PB5		
200	ASDATA6/PB6		
199	ASDATA7/PB7		
10	XAWR	OUT	It is a transfer reply terminal of an AUDIO_DMA channel. Output form varies with setting.
11	XASACK	OUT	It is a transfer reply terminal of an AUDIO_DMA channel. Output form varies with setting.
12	ASREQ	IN	It is a transfer demand terminal of an AUDIO_DMA channel. You can change polarity by setting.
192	BCK	OUT	It is the bit clock output to DAC.
193	LRCK	OUT	It is the LRCK signal output to DAC.
194	ADATA0	OUT	It is the serial data output to DAC.
187	CDBCK	IN	It input a bit clock from a CD decoder. Prospective frequency is 2.1168MHz(48fs).
186	CDLR	IN	It input a LRCK signal from a CD decoder.
185	CDDT	IN	It input audio system data from a CD decoder.
181	WFCK	IN	It is frame clock signal of a CD.
180	SCOR	IN	It is input terminal of assistant code sink of a CD.

No.	Pin name	Dir.	Pin Functions
179	SBSO	IN	It is an assistant code data input terminal of a CD.
184	EXCK	OUT	It is a shift clock making timeliness to send data forth on a SBSO terminal.
188	C2FI/PE2	IN	It is input terminal of C2 error flag from a CD decoder.
136	FSX/STATUS4	I/O	It input a FSX signal from a CD decoder. FSX signal is 7.35Khz at normal speed with frame alignment signal of error correction of CIRC. By setting of a $7F register, It become the internal monitor output (STATUS 4).
137	EFLG/STATUS3	I/O	It input an EFLG signal from a CD decoder. An EFLG signal is a monitor signal of error correction processing movement of CIRC. By setting of a $7F register, It become the internal monitor output (STATUS 3).
172	AIN	IN	It is analog RF signal input terminal to built-in A/D converter.
168	VRT	IN	It is reference voltage input terminal of built-in A/D converter.
169	VRTS	OUT	Connect with VRT.
170	VRC	OUT	It is center voltage output terminal of built-in A/D converter.
174	VRB	IN	It is reference voltage input terminal of built-in A/D converter.
173	VRBS	OUT	Connect with VRB.
37	CKE/PD3	OUT	It is an Enable signal of SDCLK.
38	CSB/PD2	OUT	It is chip select signal of SDRAM.
62	SDCLK	OUT	It is a terminal outputting a movement clock of SDRAM.
68	XCASH/DOMH	OUT	When it uses DRAM of bus 16 wide bit, it is a CAS signal of high rank 8bit.
197	VREQEN/PD1	I/O	It is an Enable signal of Video-REQ.
198	AREQEN/PD0	I/O	It is an Enable signal of Audio-REQ.

■ M65776AFP (DVDM ASSY : IC751)

• MPEG2 Decoder IC

● **Block Diagram**



● Pin Function

No.	Pin name	Dir.	Pin Functions
201-208	BD [7:0]	IN	Bit stream data entry pin
2	BCLK	IN	Strobe signal of BD pin (clock)
3	BDEN	IN	This order effective / invalidity of data done a sample of by BD pin. It is done a sample with a start edge of BCLK.
4	BDREQ	OUT	Data demand signal
5	BSECH	IN	This order it whether data of BD pin are with top byte of a sector.
84-87, 90-95, 97-102	MD [15:0]	I/O	Data transfer line with SDRAM
53-55, 58-63, 65, 67, 69	MA [11:0]	OUT	Address line of SDRAM
66, 68	MBA [1:0]	OUT	SDRAM bank choice line
70	DCS	OUT	Chip select of SDRAM
73	DCS2		
74	DCS3		
75	DCS4		
76	DCS5		
77	RAS	OUT	RAS (Row Address Strobe) control line of SDRAM
78	CAS	OUT	CAS (Column Address Strobe) control line of SDRAM
82	DQMU	OUT	DQM control line of SDRAM
83	DQML	OUT	DQM control line of SDRAM
80	DWE	OUT	WE control line of SDRAM
79	MCLK	OUT	Movement clock of SDRAM
183	PXCLK	OUT	27MHz pixel clock
182	PXCLKP	OUT	54MHz pixel clock
157, 158, 184-186, 188-192	PD [7:0]	OUT	Digital pixel data. Y/Cb/Cr is done multiple of by 8 bit bus, and it is output.
178	CSYNC	IN	Composite SYNC signal input terminal
179	OSDKEY	OUT	OSD key flag output
177	PWD	OUT	The phase comparator output for external synchronization movement
181	HSYNC	OUT	Horizontal synchronizing signal output pin
180	VSYNC	OUT	Vertical synchronizing signal output pin
164	AO0	OUT	Serial PCM data for DAC It output Lf/Rf data.
166	AO1	OUT	Serial PCM data for DAC It output C/Sw data.
167	AO2	OUT	Serial PCM data for DAC It output Ls/Rs data.
168	AOD	OUT	Serial PCM data for DAC It is for the down mixture output.
169	AAD	OUT	Anciallary data output
176	DOCLK	OUT	PCM bit clock
159	LRCLK	OUT	Clock for channel distinction of pulse code modulation audio system data (L/R)
173	DACCLK	OUT	Exaggerated sample movement clock of DAC
161	CDBCK	IN	The pulse code modulation bit clock which is input by CDDSP
160	CDLRCK	IN	The L/R clock which is input by CDDSP

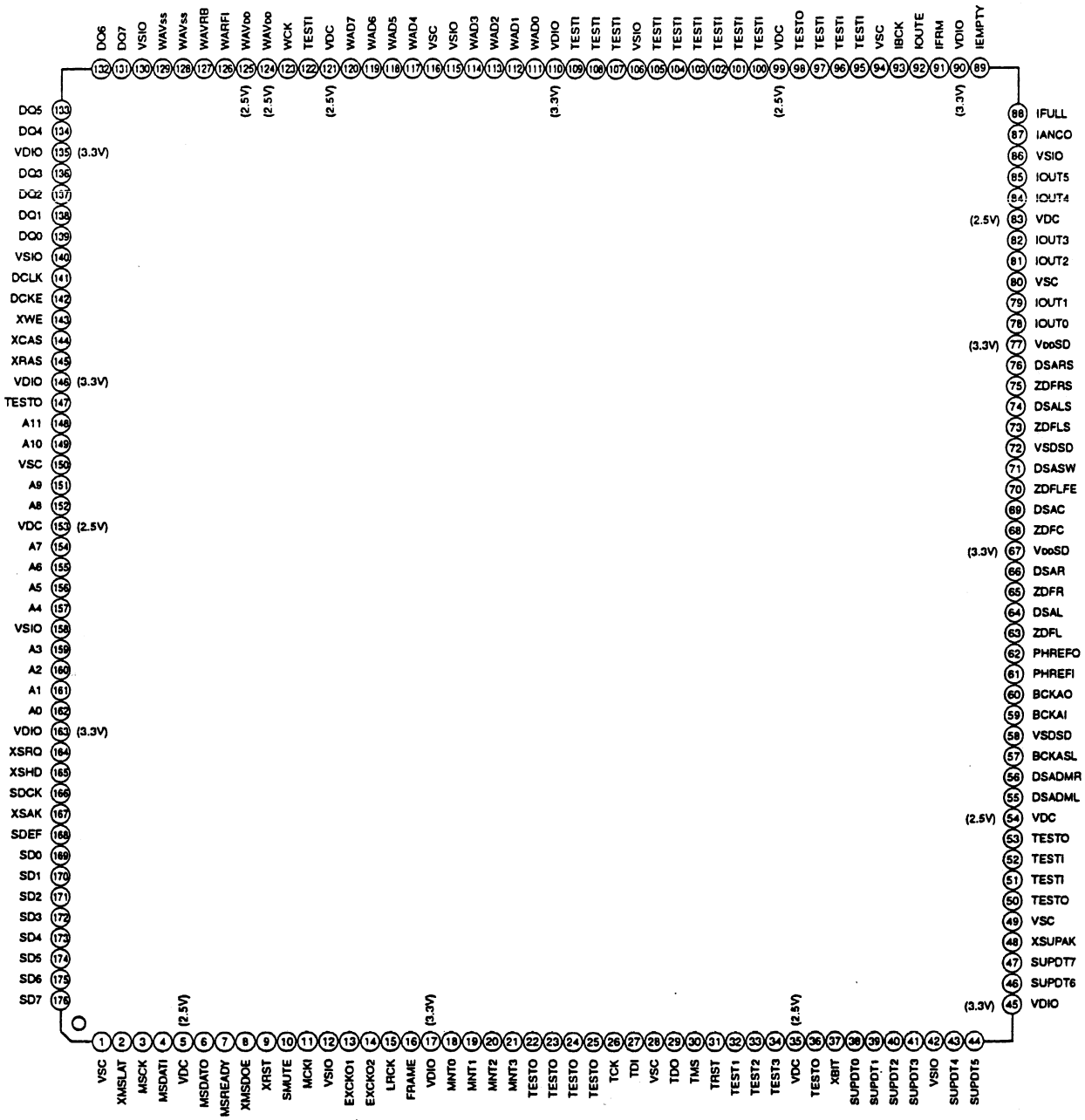
No.	Pin name	Dir.	Pin Functions
163	CDDIN	IN	PCM audio system data which are input by CDDSP
162	CDDATA	IN	Digital audio interface input
170	DOUT0	OUT	Digital audio interface output
171	DOUT1	OUT	Digital audio interface output
6-11, 14-19, 21-24	HD [15:0]	I/O	Data I/O pin
25, 26, 29-34, 36-39	HA [11:0]	IN	Address input pin
45	BHE	IN	Byte High Enable signal input pin
41	RE	IN	Read Enable signal input pin
44	WE	IN	Write Enable signal input pin
40	CS	IN	Chip Select signal input pin
46	RDY	OUT	The acknowledge signal which shows that readout of data or a note was completed
47	INT1	OUT	It is an interrupt request signal for outside CPU from M65776AFP
48	INT2		
49	INT3		
51	DREQ	OUT	DMA request signal for OSD BitMap transfer
52	DACK	IN	DMA acknowledge signal for OSD BitMap transfer
194, 195	HMODE [1:0]	IN	Host interface mode of operation setting pin
117	IREF	IN	Reference electric current input pin
115	AVRI	IN	Reference voltage input pin
120	BIAS1	IN	Bias voltage impression pin of current source
118	BIAS2		
119	PAY	OUT	Analog electric current output pin (for Y)
116	PAB	OUT	Analog electric current output pin (for Pb)
122	PAR	OUT	Analog electric current output pin (for Pr)
114	DAOUTB	OUT	Be connected to an analog ground.
113, 121, 123	AVDD33	–	3.3V analog power supply
124	AGND33	–	Analog ground
106	CLKIN	IN	System clock input terminal It input 27MHz clock.
105	CLKO	OUT	27MHz clock output
172	ACLKI	IN	Audio system clock input terminal
193	RESET	IN	Hardware reset terminal
196, 197, 200	TEST [2:0]	IN	Fix it in "L" potential.
12, 27, 42, 56, 71, 88, 103, 134, 155, 174, 198	VDD18	–	1.8V power supply terminal
13, 28, 43, 57, 72, 89, 104, 135, 156, 175, 199	VDD33	–	3.3V power supply terminal

No.	Pin name	Dir.	Pin Functions
1, 20, 35, 50, 64, 81, 96, 112, 125, 145, 165, 187	GND	–	Ground terminal
107	AVDD18	–	1.8V power supply terminal for inside PLL
108	AGND18	–	Ground terminal for inside PLL
109-111, 126-133, 136-144, 146-154	NC0	NC	

■ CXD2753R (SACDB ASSY : IC901)

• SACD Decoder

● Pin Arrangement



● Pin Function

No.	Pin Name	I/O	Pin Function
1	VSC	–	Ground terminal for core
2	XMSLAT	I	Latched input terminal for microcomputer serial communication
3	MSCK		Shift clock input terminal for microcomputer serial communication
4	MSDAI		Data entry terminal for microcomputer serial communication
5	VDC	–	Power supply terminal for core
6	MSDATO	O	Data output terminal for microcomputer serial communication
7	MSREADY		Output preparation completion flag for microcomputer serial communication
8	XMSDOE		Output enable terminal for microcomputer serial communication
9	XRST	I	Reset terminal resets the whole IC with "L".
10	SMUTE	Ipd	Software mute removes audio out with "L" with "H" a soft mute terminal.
11	MCKI	I	Master clock input terminal
12	VSIO	–	Ground terminal for I/O
13	EXCKO1	O	Outside output clock terminal 1
14	EXCKO2		Outside output clock terminal 2
15	LRCK		1Fs (44.1kHz) clock output terminal
16	FRAME		Frame signal output terminal
17	VDIO	–	Power supply terminal for I/O
18	MNT0	O	Monitor output terminal
19	MNT1		
20	MNT2		
21	MNT3		
22	TESTO		Output terminal for test
23			
24			
25			
26	TCK	I	It is fixation in "L" a clock input terminal for test.
27	TDI	Ipu	Input terminal for test
28	VSC	–	Ground terminal for core
29	TDO	O	Output terminal for test
30	TMS	Ipu	Input terminal for test
31	TRST		Reset terminal for test
32	TEST1	I	It is fixation in "L" a clock input terminal for test.
33	TEST2		
34	TEST3		
35	VDC	–	Power supply terminal for core
36	TESTO	O	Output terminal for test
37	XBIT		DST connection monitor terminal
38	SUPDT0		Supplementary data output terminal (LSB)
39	SUPDT1		Supplementary data output terminal
40	SUPDT2		
41	SUPDT3		
42	VSIO	–	Ground terminal for I/O
43	SUPDT4	O	Supplementary data output terminal
44	SUPDT5		
45	VDIO	–	Power supply terminal for I/O
46	SUPDT6	O	Supplementary data output terminal
47	SUPDT7		Supplementary data output terminal (MSB)
48	XSUPAK		Supplementary data output terminal
49	VSC	–	Ground terminal for core
50	TESTO	O	Output terminal for test

No.	Pin Name	I/O	Pin Function
51	TESTI	I	It is fixation in "L" a test input terminal.
52			
53	TESTO	O	Output terminal for test
54	VDC	–	Power supply terminal for core
55	DSADML	O	DSD data output terminal for Lch Down Mix
56	DSADMR		DSD data output terminal for Rch Down Mix
57	BCKASL	I	Input and output choice terminal of a 1 bit clock for DSD data output.L= input (slave), H = output (master).
58	VSDSD	–	Ground terminal for DSD data output
59	BCKAI	I	Bit clock input terminal for DSD data output
60	BCKAO	O	Bit clock output terminal for DSD data output
61	PHREFI	I	Phase reference signal input terminal for DSD output phase modulation
62	PHREFO	O	Phase reference signal output terminal for DSD output phase modulation
63	ZDFL		Zero Lch data search flag
64	DSAL		DSD data output terminal for Lch loud speaker
65	ZDFR		Zero Rch data search flag
66	DSAR		DSD data output terminal for Rch loud speaker
67	VDDSD	–	Power supply Mizuko for DSD data output
68	ZDFC	O	Zero Cch data search flag
69	DSAC		DSD data output terminal for Cch loud speaker
70	ZDFLFE		Zero LFEch data search flag
71	DSASW		DSD data output terminal for SWch loud speaker
72	VSDSD	–	Ground terminal for DSD data output
73	ZDFLS	O	Zero LSch data search flag
74	DSALS		DSD data output terminal child for LSch loud speaker
75	ZDFRS		Zero RSch data search flag
76	DSARS		DSD data output terminal for RSch loud speaker
77	VDDSD	–	Power supply Mizuko for DSD data output
78	IOUT0	O	Data output terminal 0 for IEEE1394 link tip I/F
79	IOUT1		Data output terminal 1 for IEEE1394 link tip I/F
80	VSC	–	Ground terminal for core
81	IOUT2	O	Data output terminal 2 for IEEE1394 link tip I/F
82	IOUT3		Data output terminal 3 for IEEE1394 link tip I/F
83	VDC	–	Power supply terminal for co
84	IOUT4	O	Data output terminal 4 for IEEE1394 link tip I/F
85	IOUT5		Data output terminal 5 for IEEE1394 link tip I/F
86	VSIO	–	Ground terminal for I/O
87	IANCO	O	Transmission information data output terminal for IEEE1394 link tip I/F
88	IFULL	I	Data transmission hold demand signal input terminal for IEEE1394 link tip I/F
89	IEMPTY		High speed transmission demand signal input terminal for IEEE1394 link tip I/F
90	VDIO	–	Power supply terminal for I/O
91	IFRM	O	Frame reference signal output Mizuko for IEEE1394 link tip I/F
92	IOUTE		Enable signal output terminal for IEEE1394 link tip I/F
93	IBCK		Data transmission clock output terminal for IEEE1394 link tip I/F
94	VSC	–	Ground terminal for core
95	TESTI	I	It is fixation in "H" a test input terminal.
96			It is fixation in "L" a test input terminal.
97		Ipu	It is fixation in "H" a test input terminal.
98	TESTO	O	Output terminal for test
99	VDC	–	Power supply terminal for co
100	TESTI	I	It is fixation in "L" a test input terminal.

No.	Pin Name	I/O	Pin Function
101	TESTI	I	It is fixation in "L" a test input terminal.
102			
103			
104			
105			
106	VSIO	–	Ground terminal for I/O
107	TESTI	I	It is fixation in "L" a test input terminal.
108			
109			
110	VDIO	–	Power supply terminal for I/O
111	WAD0	I	Outside A/D data entry terminal for PSP Physical Disc Mark search (LSB)
112	WAD1		Outside A/D data entry terminal for PSP Physical Disc Mark search
113	WAD2		
114	WAD3		
115	VSIO	–	Ground terminal for I/O
116	VSC	–	Ground terminal for core
117	WAD4	I	Outside A/D data entry terminal for PSP Physical Disc Mark search
118	WAD5		
119	WAD6		
120	WAD7		Outside A/D data entry terminal for PSP Physical Disc Mark search (MSB)
121	VDC	–	Power supply terminal for core
122	TESTI	I	It is fixation in "L" a test input terminal.
123	WCK		Movement clock for PSP Physical Disc Mark search
124	WAVDD	–	A/D power supply terminal for PSP Physical Disc Mark search
125			
126	WARFI	Ai	Analog RF signal input terminal for PSP Physical Disc Mark search
127	WAVRB		A/D bottom reference terminal for PSP Physical Disc Mark search
128	WAVSS	–	A/D ground terminal for PSP Physical Disc Mark search
129			
130	VSIO	–	Ground terminal for I/O
131	DQ7	I/O	SDRAM data input-output terminal (MSB)
132	DQ6		SDRAM data input-output terminal
133	DQ5		
134	DQ4		
135	VDIO	–	Power supply terminal for I/O
136	DQ3	I/O	SDRAM data input-output terminal
137	DQ2		
138	DQ1		
139	DQ0		SDRAM data input-output terminal (LSB)
140	VSIO	–	Ground terminal for I/O
141	DCLK	O	Clock output terminal for SDRAM
142	DCKE		Clock enable output terminal for SDRAM
143	XWE		Wright enable output terminal for SDRAM
144	XCAS		Column address strobe output terminal for SDRAM
145	XRAS		Row address strobe output terminal for SDRAM
146	VDIO	–	Power supply terminal for I/O
147	TESTO	O	Output terminal for test
148	A11		Address output terminal for SDRAM (MSB)
149	A10		Address output terminal for SDRAM
150	VSC	–	Ground terminal for core

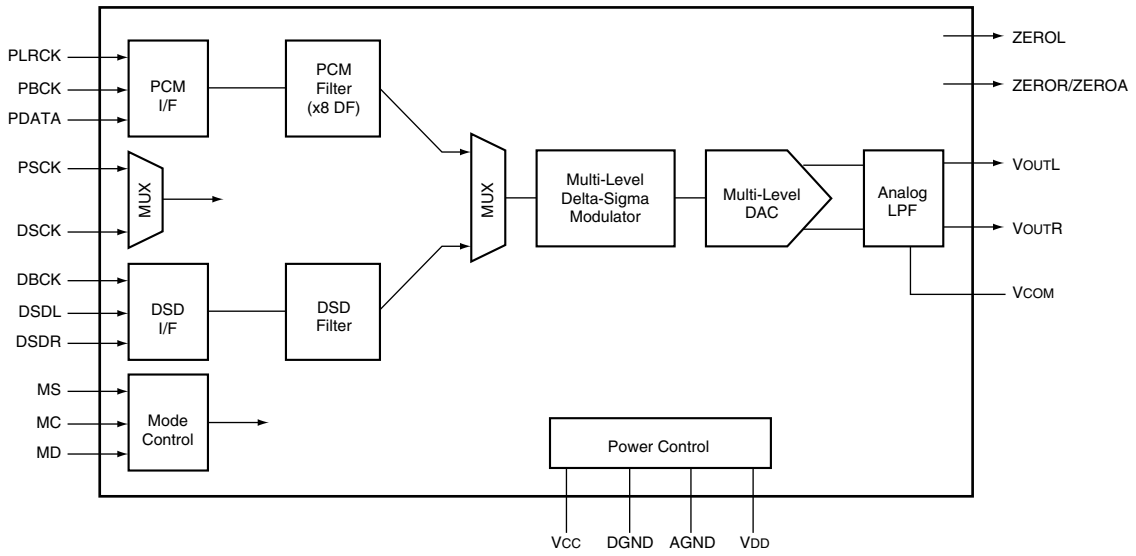
No.	Pin Name	I/O	Pin Function
151	A9	O	Address output terminal for SDRAM
152	A8		
153	VDC	–	Power supply terminal for core
154	A7	O	Address output terminal for SDRAM
155	A6		
156	A5		
157	A4		
158	VSIO	–	Ground terminal for I/O
159	A3	O	Address output terminal for SDRAM
160	A2		
161	A1		
162	A0		Address output terminal for SDRAM (LSB)
163	VDIO	–	Power supply terminal for I/O
164	XSRQ	O	Data request output terminal to input into a front end processor
165	XSHD	I	Input terminal of a header flag output by a front end processor
166	SDCK		Input terminal of a data carrier clock output by a front end processor
167	XSAK		Input terminal of data partial response flag output by a front end processor
168	SDEF		Input terminal of error flag output by a front end processor
169	SD0		The stream data input terminal which is output by a front end processor (LSB)
170	SD1		The stream data input terminal which is output by a front end processor
171	SD2		
172	SD3		
173	SD4		
174	SD5		
175	SD6		
176	SD7		The stream data input terminal which is output by a front end processor (MSB)

Ipu : Pull-up input, Ipd : Pull-down input, Ai : Analog input

■ DSD1702EG (VIDEO ASSY : IC1401-IC1404)

• D/A Converter IC

● Block Diagram



● Pin Arrangement

● Pin Function

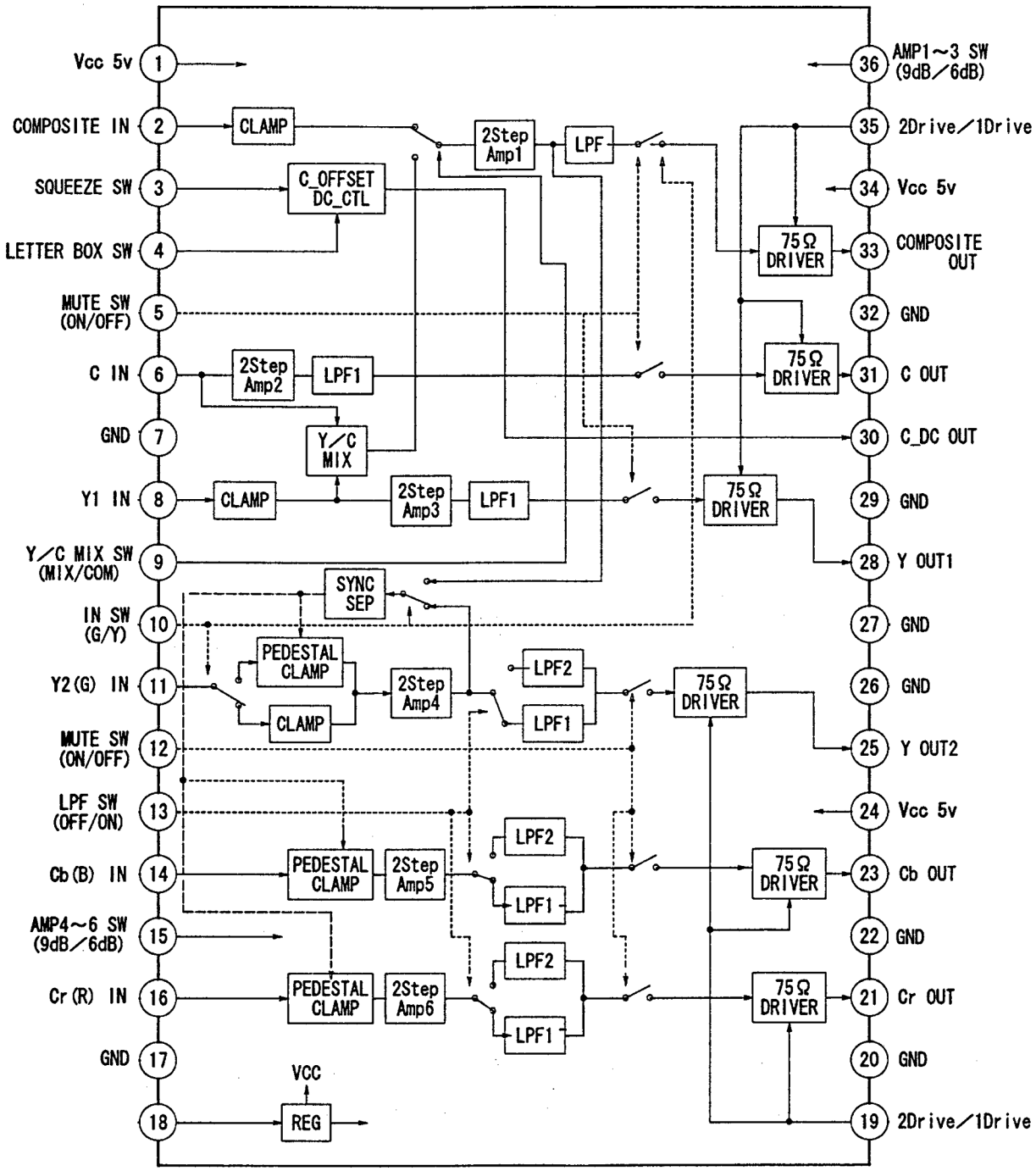
No.	Pin Name	I/O	Function
1	DSDL	I	Audio data digital input (DSD-L ch) (1)
2	DSDR		Audio data digital input (DSD-R ch) (1)
3	PBCK	I	Audio data bit clock input (PCM) (1)
4	PDATA		Audio data digital input (PCM) (1)
5	PLRCK		Audio data latch enable input (PCM) (1)
6	DGND	–	Digital ground
7	VDD		Digital power supply +3.3V
8	VCC		Analog power supply +5V
9	VOUTL	O	Analog output for L ch
10	VOUTR		Analog output for R ch
11	AGND	–	Analog ground
12	VCOM		Common voltage decuppling
13	ZEROR/ZEROA	O	Zero flag output for R ch / Zero flag output for L/R ch
14	ZEROL/NA		Zero flag output for L ch / No assign
15	MD	I	Mode control data input (2)
16	MC		Mode control clock input (2)
17	MS		Chip select for mode control (2)
18	PSCK	I	System clock input (PCM) (1)
19	DSCK		System clock input (DSD) (1)
20	DBCK		Audio data bit input (DSD) (1)

Note :
(1) Schmit trigger input, 5V tolerant.
(2) Schmit trigger input with internal pull-down, 5V tolerant.

■ LA73054 (VIDEO ASSY : IC8801)

• DVD Video Amplifier

● **Block Diagram**



● Pin Function

No.	Pin Functions		0–0.7V (LOW)	2.6–5V (HIGH)
36	AMP-GAIN change for composite/S		6 dB	9 dB
15	AMP-GAIN change for component		6 dB	9 dB
35	Drive electric current change for composite/S		2 system drive	1 system drive
19	Drive electric current change for component		2 system drive	1 system drive
5	Mute control for composite/S	In 10 pin LOW	It is not do mute	33, 31, 28 pin mute
		In 10 pin HIGH	It is not do mute	31, 28 pin mute
12	Mute control for component		It is not do mute	25, 23, 21 pin mute
9	The control of Y/C–MIX		In composite	In Y/C–MIX
10	11 pin input form change		In the component input	In the baseband input
13	LPF characteristic change for component		Inter race correspondence	Progressive correspondence

2 pin falls to GND in Y/C-MIX.
11 pin is clamp, and the Y signal input, 14, 16 pin input a CB, CR signal into NTSC (in the component input) with pedestal clamp.
8 pin is clamp, and the Y signal input, 11, 14, 16 pin input a R, G, B signal into PAL (in the baseband input) with pedestal clamp.
It prohibit mute of 5 pin when It do Y/C-MIX in PAL (in the baseband input).

■ PDC099A (CONTROL ASSY : IC5501)

• Main microcomputer

● Pin Function

No.	Mark	Pin Name	I/O	Pin Function	Active
1	PORT	DVD ON/OFF	O	DVD power control	H
2	PORT	HPDET	I	Headphone detection input	H
3	PORT	NC	O	NC	H
4	INT0 PORT	ACPULSE	I	AC pulse input	–
5	INT1 PORT	CDERR	I	ERR and OVER input from DIR	–
6	INT2 PORT	RDSCLK	I	RDS clock (input) L output for no RDS model.	–
7	INT3 PORT	REMOCON	I	Remote control input	–
8	RESET	XRESET	I	Reset input	L
9	for OSC	–	I	–	–
10	for OSC	–	O	(Set to specification to oscillate, and open it.)	–
11	GND	–	–	–	–
12	for OSC	–	I	–	–
13	for OSC	–	O	–	–
14	VDD	–	–	–	–
15	ANALOG INPUT	SIMUKE	I	Destination switch	–
16	ANALOG INPUT	NC	O	NC	–
17	ANALOG INPUT	3.3DETECT	I	DVD 3.3Vdetection (2 to 4V are normal)	–
18	ANALOG INPUT	KEY1	I	Key input (for AMP)	–
19	ANALOG INPUT	ST/TUNE	I	STEREO/tuned input	–
20	ANALOG INPUT	XPROTECT	I	Protection / fan restraint detection	–
21	ANALOG INPUT	DOOR SW	I	For door SW detection	–
22	ANALOG INPUT	NC	O	NC	–
23	HARD SERIAL	S(FtoM)	O	System bus data output (AMP side output) Communication from SYS control to DVD control	–
24	HARD SERIAL	S(MtoF)	I	System bus data input (AMP side input) Communication from DVD control to SYS control	–
25	HARD SERIAL	SSCK	O	System bus clock output	–
26	HARD SERIAL	OELDAT	I	Communication data input of OEL controller Communication from OEL control to SYS control	–
27	HARD SERIAL	DISPDAT	O	Communication data (DISP data) output of OEL controller (UART communication) Communication from SYS control to OEL control	–
28	HARD SERIAL	OELRST	O	Reset the OEL controller	L
29	PORT	XREADY	O	XREADY (DVD)	–
30	PORT	TRAYSW	I	Tray open detection switch	–
31	PORT	XHPMUTE	O	HP MUTE ON/OFF	L
32	PORT	XRECMUTE	O	MUTE ON/OFF for REC mode	L
33	PORT	XTVMUTE	O	TV audio mute ON	L
34	PORT	DVDA6DBATT	O	DVDA6DBATT	H
35	PORT	XTMRLED	O	Timer LED control	H
36	PORT	XBLEDH	O	BLUE LED-H	L
37	PORT	XBLEDM	O	BLUE LED-M	L
38	PORT	XBLEDL	O	BLUE LED-L	L
39	GND	–		–	–
40	VDD	–		–	–

No.	Mark	Pin Name	I/O	Pin Function	Active
41	PORT	ATTCONT	O	Control ATT of AUX (+10dB)	H
42	PORT	ATTCNT2	O	Control ATT of AUX 2(+6dB)	H
43	PORT	SERVICE	I	Single operation for service	–
44	PORT	UNIT TEST	I	Unit test mode (Operation mode for checker)	–
45	PORT	DTSDMIX	O	Gain adjustment for dts down-mix	H
46	PORT	SWFMIX	O	subwoofer mix control	H
47	PORT	ASSELC	O	Audio source select C	–
48	PORT	NC	O	NC	–
49	PORTorSIO	DSPDI	O	CODEC+DIR IC data input, CRISTAL's DSP(AMP side input) [DSPcoreCDDO+CSDO] * Port name is matched with the DSP module.	–
50	PORT	DSPDO	I	CODEC+DIR IC data output, CRISTAL's DSP (AMP side output)[DSPcoreCDDI+CSDI] * Port name is matched with the DSP module.	–
51	PORTorSIO	DSPCLK	O	CODEC+DIR IC clock, CRISTAL's DSP[DSPcoreCDCK+CSCK]	–
52	PORT	NC	O	NC	–
53	PWM PORT		O	NC	–
54	PWM PORT	–	O	NC	–
55	VDD	–		–	–
56	GND	–		–	–
57	PORT	TXCE	O	CE for tuner	–
58	PORT	HP CE	O	IC CE for headphone	–
59	PORT	VSSELB	O	Video SW B	–
60	PORT	VSSELA	O	Video SW A	–
61	PORT	TXCLK	O	CLK for tuner	–
62	PORT	TXDO	O	DATA for tuner	–
63	PORT	TXMUTE	O	Tuner mute	H
64	PORT	RDSPOW	O	Control power supply of RDS	H
65	PORT	RDSDATA	I	Input RDS data	–
66	PORT	TXDI	I	Input data from tuner LSI	–
67	PORT	XUDSPMUTE	O	Control mute of DSP(board)	L
68	PORT	A/D MODE	O	DSP mute when ANALOG	H
69	PORT	XDSP MUTE	I	XDSP MUTE	–
70	INT5	LT1	I	Input latch signal from DVD connection	–
71	PORT	VSELC	O	COMPOSIT OR S-VIDEO SW	–
72	PORT	NC	O	NC	–
73	PORT	CA15	O	BOOT ADRESS for SRAM/P2ROM (CRISTAL's DSP)	–
74	PORT	CA16	O	BOOT ADRESS for SRAM/P2ROM (CRISTAL's DSP)	–
75	PORT	CA17	O	BOOT ADRESS for SRAM/P2ROM (CRISTAL's DSP)	–
76	PORT	CA18	O	BOOT ADRESS for SRAM/P2ROM (CRISTAL's DSP)	–
77	PORT	CA19	O	BOOT ADRESS for SRAM/P2ROM (CRISTAL's DSP)	–
78	PORT	ASSELB	O	Audio source select B	–
79	PORT	ASSELA	O	Audio source select A (CD,TUNER,TAPE,AUX) BU4051	–
80	PORT	DOOR OP	O	For door control (OPEN)	H

No.	Mark	Pin Name	I/O	Pin Function	Active
81	PORT	DOOR CL	O	For door control (CLOSE)	H
82	PORT	DSPCS	O	Chip select for CRISTAL's DSP	–
83	PORT	DSPRQ	I	Request input from CRISTAL's DSP	–
84	PORT	FS96	I	96K input from CODEC	–
85	PORT	ABOOT	O	Chip select for SRAM/P2ROM	–
86	PORT	XDSPRST	O	RESET for CRISTAL's DSP	–
87	PORT	CDCCS	O	Chip select for CODEC	–
88	GND	–	–	–	–
89	VDD	–	–	–	–
90	PORT	XCDCPDN	O	Power down (RESET) for CODEC	L
91	PORT	SYSPOW	O	Control power supply of system	H
92	PORT	DSP SW	O	SW control for DVD-A&SACD	H
93	PORT	XDVDRST	O	DVD RESET	L
94	PORT	XSYSMUTE	O	Control mute of system	L
95	PORT	VOLCE	O	Volume IC CE	–
96	PORT	VOLCLK	O	Volume IC Clock	–
97	PORT	VOLDATA	O	Volume IC Data	–
98	PORT	FLASH E/D	–	For flash writing	–
99	PORT	FLASH DO	–	For flash writing	–
100	PORT	FLASH CLK	–	For flash writing	–

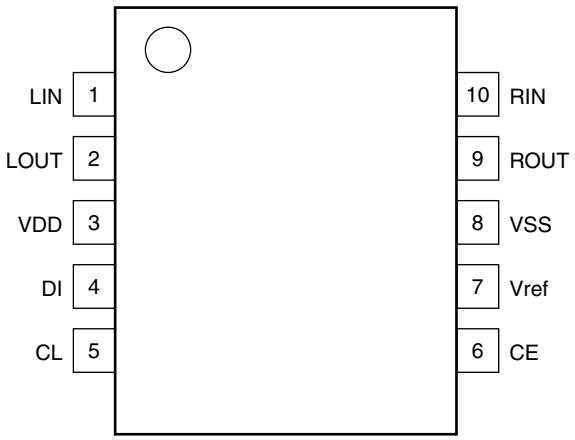
● **EXPAND port in E-vol IC (M62446FP) (S-DV1000SW AF ASSY : IC3001)**

No.	Mark	Pin Name	Pin Function	Active
4	Q1	NOISEHELP	Noise help	H
3	Q2	CMUTE	Control C mute	H
2	Q3	SPRYRC	Control relay for rear and center speaker	H
1	Q4	SPRYS	Control relay for front speaker	H

■ LC75344M (CONTROL ASSY : IC3902)

• One Chip El. Volume System IC

● Pin Arrangement

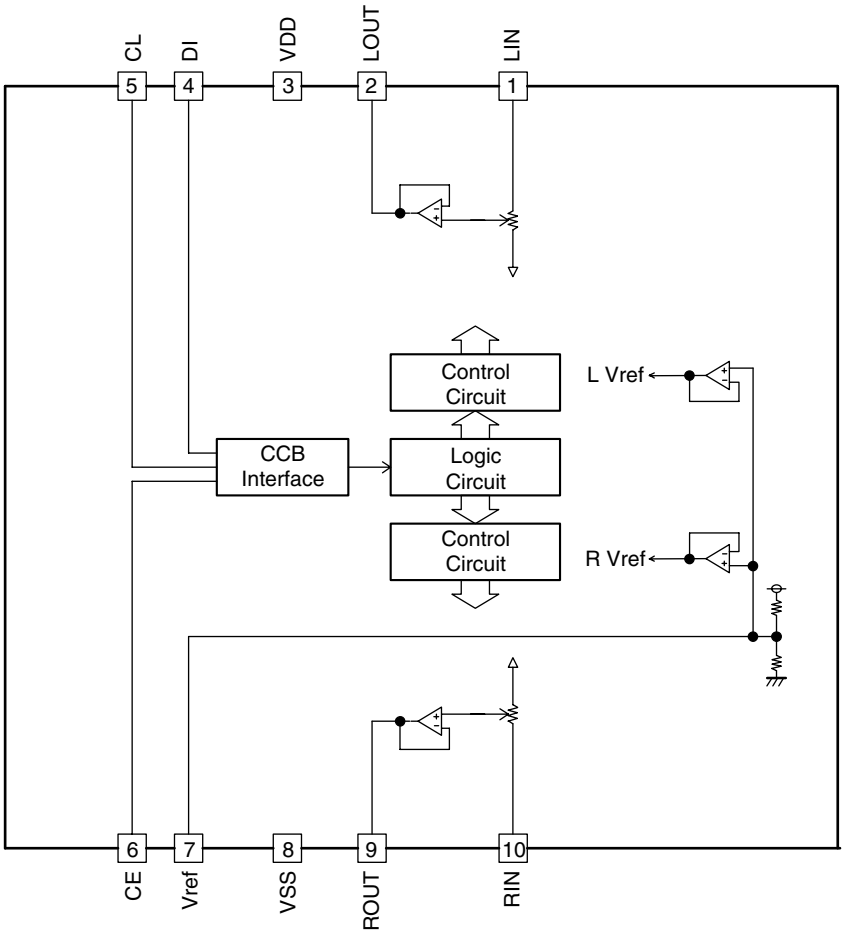


(Top View)

● Pin Function

No.	Pin Name	Pin Function
1	LIN	Volume input pin
2	LOUT	Volume output pin
3	VDD	Power supply pin
4	DI	Serial data and clock input for control
5	CL	
6	CE	Chip enable pin
7	Vref	0.5VDD voltage generator for analog ground
8	VSS	Ground pin
9	ROUT	Volume output pin
10	RIN	Volume input pin

● Block Diagram



■ PD5797A (OEL CONT ASSY : IC1901)

• Microcomputer

● Pin Function

No.	Mark	Pin Name	I/O	Pin Function
1	P94	CS	O	Chip select output
2	P93	(NC)	O	Not used
3	P92	(NC)	O	Not used
4	P91	(NC)	O	Not used
5	P90	(NC)	O	Not used
6	BYTE	BYTE	I	External bus width switch (L: 16 bit width, H: 8 bit width, Connect to VSS when does not use external data bus.)
7	CNVSS	CNVSS	I	Processor mode (L: Single chip (memory expansion) mode, H: Microprocessor mode / "H" at download
8	P87	GND	I	Not used
9	P86	(NC)	O	Not used
10	RESET	OELXRST	I	Use it as reset at reset / download.
11	XOUT	XOUT	O	Ceramic oscillator connection pin
12	VSS	VSS1	–	GND
13	XIN	XIN	I	Ceramic oscillator connection pin
14	VCC	VCC1	–	VCC
15	NMI	NMI	I	NMI input (VDD pull-up)
16	P84	(NC)	O	Not used
17	P83	(NC)	O	Not used
18	P82	(NC)	O	Not used
19	P81	(NC)	O	Not used
20	P80	(NC)	O	Not used
21	P77	(NC)	O	Not used
22	P76	(NC)	O	Not used
23	P75	(NC)	O	Not used
24	P74	(NC)	O	Not used
25	P73	(NC)	O	Not used
26	P72	OELDTI	O	Communication data output of OEL controller
27	P71	(NC)	O	Not used
28	P70	(NC)	O	Not used
29	TxD1	TXD1	O	Not used / TxD output at download
30	RxD1	DISPDAT/RXD1	I	Display data input / RxD input at download
31	P65	CLK1	O	Not used / SCLK input at download
32	P64	RTS1	O	Not used / RTS1 (BUSY) output at download
33	P63	(NC)	O	Not used
34	P62	(NC)	O	Not used
35	P61	(NC)	O	Not used
36	P60	(NC)	O	Not used
37	RDY	XRDY	I	OEL controller ready input
38	P56	(NC)	O	Not used
39	HOLD	HOLD	I	(VCC pull-up / GND at download)
40	P56	(NC)	O	Not used

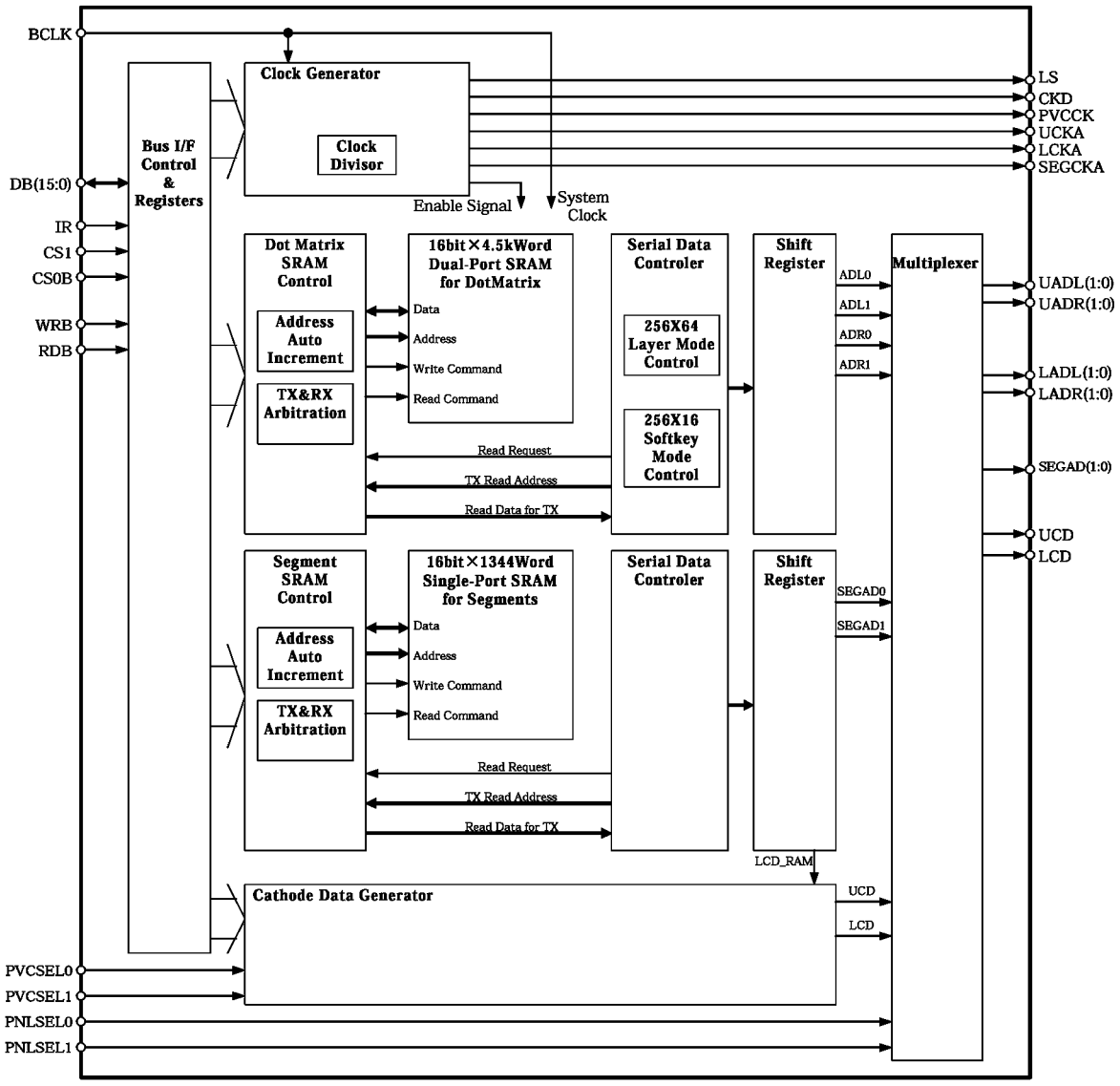
No.	Mark	Pin Name	I/O	Pin Function
41	BCLK	BCLK	O	Bus clock
42	RD	XRD	O	RD pin
43	P51	(NC)	O	Not used
44	WR	WR	O	WR pin (VCC pull-up) It is necessary to be done pull-up at download.
45	CS0	CS0	O	Chip select
46	CS1	CS1	O	Chip select
47	A21	A21	O	Address bus
48	A20	A20	O	Address bus
49	A19	A19	O	Address bus
50	A18	A18	O	Address bus
51	A17	A17	O	Address bus
52	A16	A16	O	Address bus
53	A15	A15	O	Address bus
54	A14	A14	O	Address bus
55	A13	A13	O	Address bus
56	A12	A12	O	Address bus
57	A11	A11	O	Address bus
58	A10	A10	O	Address bus
59	A9	A9	O	Address bus
60	VCC	VCC2	–	VCC
61	A8	A8	O	Address bus
62	VSS	VSS2	–	GND
63	A7	A7	O	Address bus
64	A6	A6	O	Address bus
65	A5	A5	O	Address bus
66	A4	A4	O	Address bus
67	A3	A3	O	Address bus
68	A2	A2	O	Address bus
69	A1	A1	O	Address bus
70	A0	(NC)	O	Not used
71	D15	D15	I/O	Data bus
72	D14	D14	I/O	Data bus
73	D13	D13	I/O	Data bus
74	D12	D12	I/O	Data bus
75	D11	D11	I/O	Data bus
76	D10	D10	I/O	Data bus
77	D9	D9	I/O	Data bus
78	D8	D8	I/O	Data bus
79	D7	D7	I/O	Data bus
80	D6	D6	I/O	Data bus

No.	Mark	Pin Name	I/O	Pin Function
81	D5	D5	I/O	Data bus
82	D4	D4	I/O	Data bus
83	D3	D3	I/O	Data bus
84	D2	D2	I/O	Data bus
85	D1	D1	I/O	Data bus
86	D0	D0	I/O	Data bus
87	P107	(NC)	O	Not used
88	P106	OELON	O	OEL controller control
89	P105	(NC)	O	Not used
90	P104	(NC)	O	Not used
91	P103	(NC)	O	Not used
92	P102	(NC)	O	Not used
93	P101	(NC)	O	Not used
94	AVSS	AVSS	–	Power supply input for A-D converter Connect to VSS.
95	P100	(NC)	O	Not used
96	VREF	VREF	I	Reference voltage input of A-D converter
97	AVCC	VCC3	–	Power supply voltage input of A-D converter Connct to VCC.
98	P97	BSDATA	I/O	Data input and output
99	P96	(NC)	O	Not used
100	P95	BSCK	O	Clock output

PD3430A (OEL CONT ASSY : IC1902)

• OEL Module Controller

● Block Diagram



● **Pin Function**

No.	Pin Name	I/O	Pin Function
1	DB12	I/O	Data bus 12 DB (15:0) is CS (1:0) = 10B/RDB = L output, others are input
2	DB13	I/O	Data bus 13
3	DB14	I/O	Data bus 14
4	DB15	I/O	Data bus 15
5	IR	I	Instruction register selection input CS (1:0) = 10B, IR = H; Access to instruction register CS (1:0) = 10B, IR = L; Access to data register
6	CS1	I	Chip select 1 input CS (1:0) = 10B, Access to register into PD3430A CS (1:0) = 00B, IR = L; Assert the CSOUT (external chip select)
7	CS0B	I	Chip select 0 input
8	WRB	I	Write strobe input
9	RDB	I	Read strobe input
10	BCLK	I	Bus clock input
11	RDYB	O	TESTSEL (1:0) = 00B; RDY signal output TESTSEL (1:0) ≠ 00B; Ghost scanning selection input (OBKSEL) of display test mode Ghost scans for L = 3LS, ghost scans for H = 16LS
12	CSOUT	O	TESTSEL (1:0) = 00B; CSOUT (external chip select) output TESTSEL (1:0) ≠ 00B; Scanning selection input (SCANSEL) of display test mode Ghost scans for L = with soft key, ghost scans for H = without soft key
13	VCC3	–	3.3V power supply
14	GND	–	Ground
15	VCC5	–	5V power supply
16	GND	–	Ground
17	CKD	O	Transfer clock output of serial data Connect the all driver to use to TAB CKD
18	UCKA	O	Cathode drive clock output (for upper part TAB of the panel)
19	LS	O	Line sync. signal output Connect the all driver to use to TAB LS
20	UADL0	O	Serial data output 0 of cathode TAB (upper part / left of the panel)
21	UADL1	O	Serial data output 1 of cathode TAB (upper part / left of the panel)
22	UADR0	O	Serial data output 0 of cathode TAB (upper part / right of the panel)
23	UADR1	O	Serial data output 1 of cathode TAB (upper part / right of the panel)
24	PVCCK	O	Scanning clock for PVC cathode TAB (panel)
25	UCD	O	Serial data output of cathode TAB (top half of the panel)
26	VCC3	–	3.3V power supply for 5V I/O
27	GND	–	Ground for 5V I/O
28	LCD	O	Cathode drive clock output (bottom half of the panel)
29	LCKA	O	Serial data output of cathode TAB (for under part TAB of the panel)
30	LADL0	O	Serial data output 0 of cathode TAB (under part / left of the panel)

No.	Pin Name	I/O	Pin Function
31	LADL1	O	Serial data output 1 of cathode TAB (under part / left of the panel)
32	LADR0	O	Serial data output 0 of cathode TAB (under part / right of the panel)
33	LADR1	O	Serial data output 1 of cathode TAB (under part / right of the panel)
34	SEGCKA	O	Cathode drive clock output (for segment TAB)
35	SEGAD0	O	Serial data output 0 of cathode TAB (for segment)
36	SEGAD1	O	Serial data output 1 of cathode TAB (for segment)
37	VCC5	–	5V power supply
38	GND	–	Ground
39	VCC3	–	3.3V power supply
40	GND	–	Ground
41	PVCSEL0	I	Cathode TAB selection 0 Select the UCD pin output mode. PVCTAB mode for H.
42	PVCSEL1	I	Cathode TAB selection 1 Select the LCD pin output mode. PVCTAB mode for H.
43	TESTRAM	I	L Macro test mode setting input of internal RAM L at normal use. It becomes ASIC test (RAMTEST) mode with L
44	TESTSEL0	I	L Pattern setting input 0 of the display test
45	TESTSEL1	I	L Pattern setting input 1 of the display test
46	PNLSEL0	I	Panel selection input 0
47	PNLSEL1	I	Panel selection input 1
48	T	–	H: diagnosis H at normal use.
49	W	–	H: diagnosis H at normal use.
50	RB	I	Reset input RB = L: standby Reset the user gate section and stop the serial system. RB = H: active
51	DB0	I/O	Data bus 0
52	DB1	I/O	Data bus 1
53	DB2	I/O	Data bus 2
54	DB3	I/O	Data bus 3
55	DB4	I/O	Data bus 4
56	DB5	I/O	Data bus 5
57	GND	–	Ground
58	VCC3	–	3.3V power supply
59	DB6	I/O	Data bus 6
60	DB7	I/O	Data bus 7
61	DB8	I/O	Data bus 8
62	DB9	I/O	Data bus 9
63	DB10	I/O	Data bus 10
64	DB11	I/O	Data bus 11

7.3 CLEANING

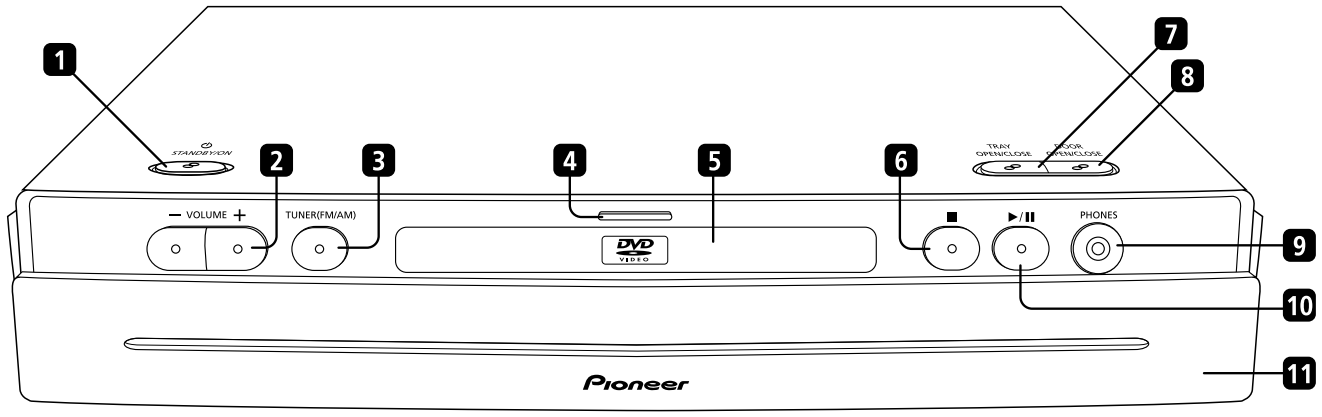
Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

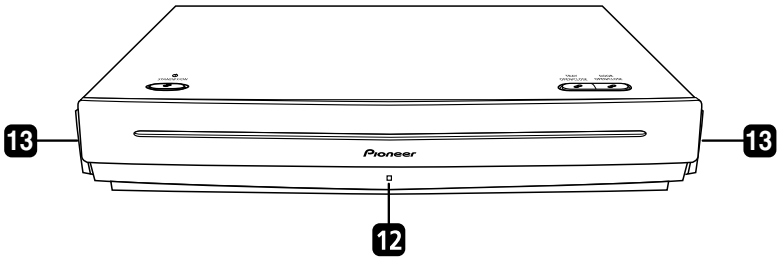
Position to be cleaned	Cleaning tools
Pickup leneses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

8. PANEL FACILITIES

8.1 FRONT PANEL





1 ⏻ STANDBY/ON
Switches the player on or into standby

2 VOLUME buttons
Adjusts the volume

3 TUNER (FM/AM)
Switches to the tuner function and toggles between the AM and FM bands

4 DVD / CD indicator
Lights when the DVD/CD function is selected

5 Disc tray

6 ■
Stops playback

7 TRAY OPEN/CLOSE
Opens/closes the disc tray

8 DOOR OPEN/CLOSE
Opens/closes the front panel door

9 PHONES jack
Headphone jack

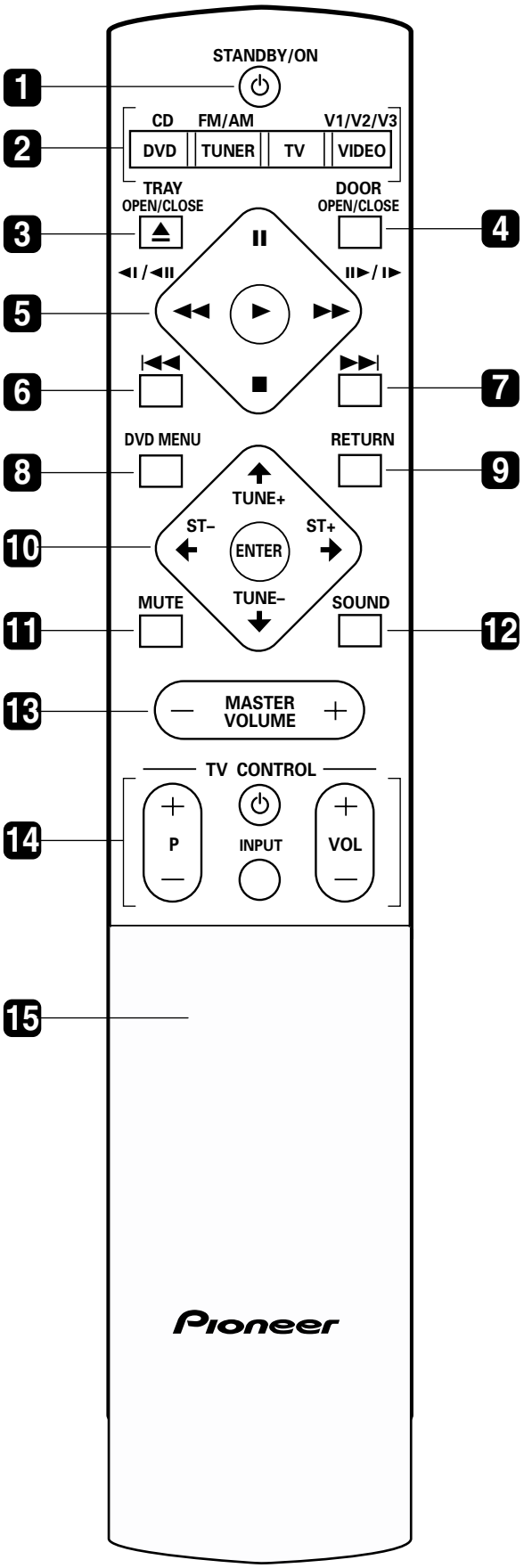
10 ►/II
Switches to the DVD/CD function and starts/pauses/resumes playback

11 Front panel door

12 Timer indicator
Lights in standby to indicate that the wake up timer has been set
(When protection circuit works, flashes on and off and become the standby state, and cannot turn the power on for 60 seconds.)

13 Removeable side panels
For instructions on removing these

8.2 REMOTE CONTROL UNIT



(Illustration shows European model)

1 ⏻ STANDBY/ON
Switches the player on or into standby

2 Function select buttons
Selects the source you want to listen to

3 TRAY OPEN/CLOSE ⏏
Press to open/close the disc tray

4 DOOR OPEN/CLOSE
Press to open/close the front panel door

5 Disc playback controls
►
Starts/resumes playback
❚❚
Pauses playback; press again to restart
►► and ❚❚►/❙►
Use for forward slow motion playback, frame advance and forward scanning
■
Stops playback
◄◄ and ◄❙/◄❚❚
Use for reverse slow motion playback, frame reverse and reverse scanning

6 ❙◄◄
Jumps to the beginning of the current chapter or track, then to previous chapters/tracks

7 ►►❙
Jumps to the next chapter or track

8 DVD MENU
Displays the DVD menu (for non-DVD discs, the Disc Navigator screen appears)

9 RETURN
Press to return to the previous on-screen menu without saving the changes made in the current screen

10 **Cursor buttons, ENTER and tuning buttons**

Cursor buttons
Use to navigate menus and on-screen displays

ENTER
Selects the currently highlighted option

TUNE + / –
Use to tune the radio

ST + / –
Use to select preset station when listening to the radio

11 **MUTE**
Press to mute the sound from the speakers and headphones. Press again to restore the sound

12 **SOUND**
Press to access the Sound menu, from which you can adjust the DSP effect level, bass and treble, and so on

13 **MASTER VOLUME + / –**
Use to adjust the overall volume level

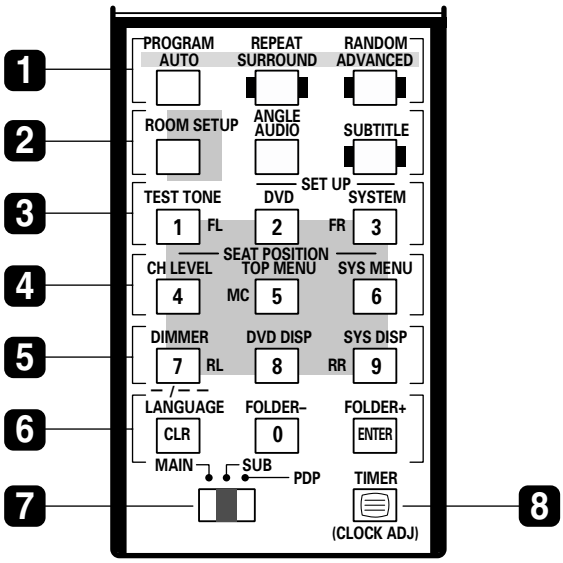
14 **TV CONTROL**
⏻
Switches the TV on or into standby

INPUT
Switches the TV input

P + / – (US model : CH + / –)
Selects channels on the TV

VOL + / –
Adjusts the volume on the TV

15 **Sliding cover**



(European model)

Most of the buttons under the sliding cover have more than one function. Function names printed in green are accessed by first sliding the switch at the bottom of the remote to **SUB**. For other functions, move the switch to **MAIN**.

European model only : Set switch to **PDP** for Teletext control on a Pioneea PDP display.

1 **PROGRAM**
Use to program/play a program list

AUTO
Automatically selects a decoding format depending on the source

REPEAT
Use to select a repeat play mode

SURROUND
Use to select a surround mode

RANDOM
Use to select a random play mode

ADVANCED
Use to select a DSP mode

2 **ROOM SETUP**
Press to start the room setup sequence for basic surround sound setup

ANGLE
Changes the camera angle during DVD multi-angle scene playback

AUDIO
Selects the audio channel or language

SUBTITLE
Selects a subtitle language

3 **Number buttons**
Use in Room Setup, when searching a disc, and selecting station presets

TEST TONE
Press to output (or cancel) the test tone when setting up surround sound channel levels

DVD SETUP
Displays (or exits) the on-screen DVD display

SYSTEM SETUP
Press to make surround sound settings

4 **CH LEVEL**
Use to setup the channel levels for surround sound

TOP MENU
Displays the top menu of a DVD disc

SYS MENU
Press to access the system menu

5 **DIMMER**
Press to change the display brightness

DVD DISP
Changes the displayed information on the display

SYS DISP
Displays the clock and RDS information (European model only)

6 **LANGUAGE**
Press to change the display language

FOLDER + / –
Use to select the next / previous folder in an MP3 disc

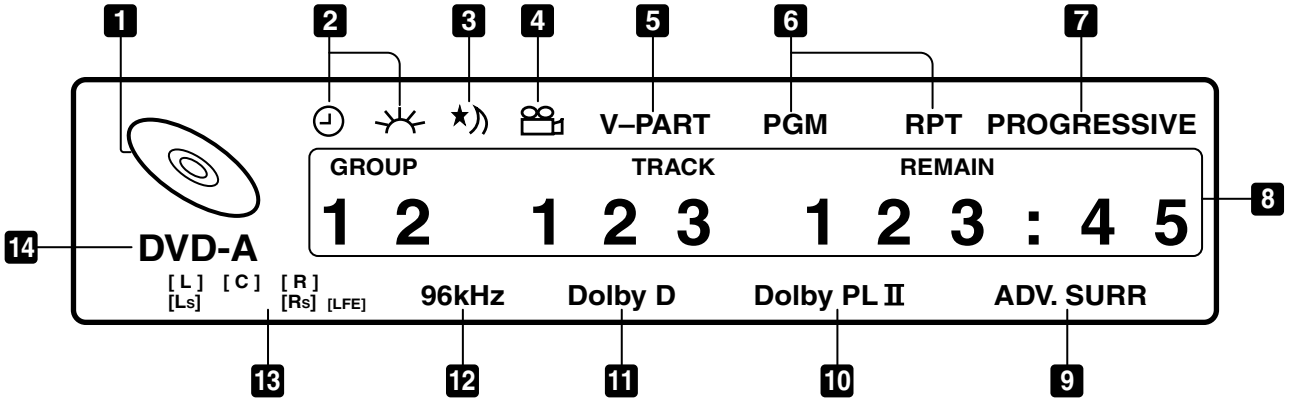
7 **MAIN / SUB / PDP** (European model)
MAIN / SUB (US model)
Change from **MAIN** to **SUB** to access functions printed in green. Switch to **PDP** to be able to use teletext with Pioneer plasma displays (see Teletext on/off below)

8 **TIMER (CLOCK ADJUST)**
Press to set the wake up and sleep timers, and to set the clock

Teletext on/off (European model only)
Press to display/hide the teletext screen. (Use the number buttons and the blue, green and yellow buttons to navigate teletext screens when using with a Pioneer plasma display.)

8.3 DISPLAY

8.3.1 Discs



1 **DVD / CD function indicator**

2
Lights when the wake-up timer is set

3
Lights when the sleep timer is active

4
Lights during multi-angle scenes on a DVD disc

5 **V-PART**
Lights when a video part of a DVD-Audio or DVD-Video disc is playing

6 **PGM / RDM / RPT / RPT-1 / PGM RPT**
Indicates program (**PGM**), random (**RDM**), repeat (**RPT** or **RPT-1**), or program-repeat (**PGM RPT**) play

7 **PROGRESSIVE** (US model only)
Lights when the player is outputting progressive-scan video

8 **Character display**

9 **Surround indicator**
Indicates the surround type; **ADV. SURR**, **SURR OFF** or **DOWNMIX**

10 **Dolby PLII**
Lights when Dolby Pro Logic II decoding is selected

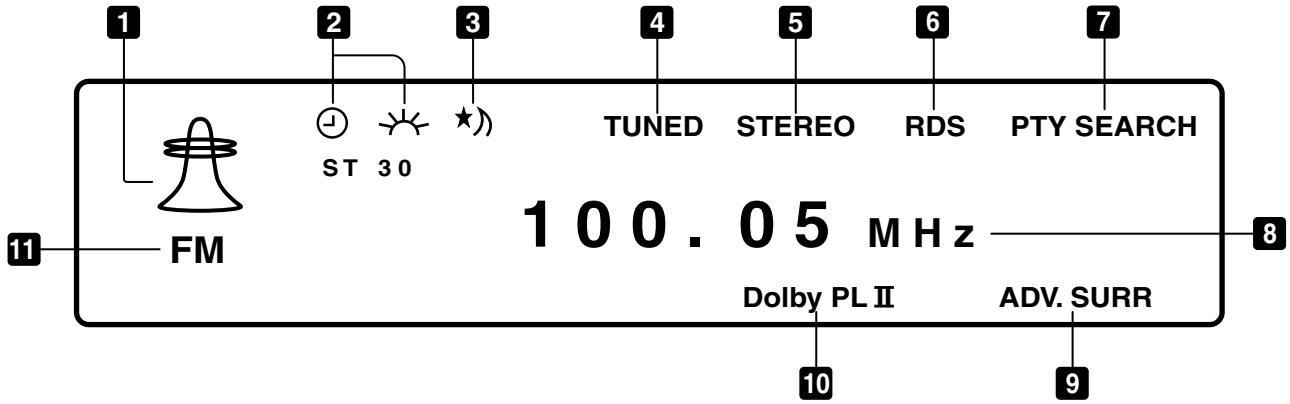
11 **Audio decoding format indicator**
Shows the decoding format in use; **Dolby D** (Dolby Digital), **DTS**

12 **Sampling frequency indicator**
Shows the sampling frequency when a linear PCM soundtrack is playing

13 **Channel indicators**
Show which channels are encoded in the currently playing soundtrack

14 **Disc type / GUI**
Shows what kind of disc is loaded; **DVD-A**, **DVD**, **DVD-RW**, **SACD**, **CD**, **VCD**, **MP3**. If no disc is loaded, 'No Disc' is displayed
GUI lights when an OSD is shown on-screen

8.3.2 Tuner



1 **Tuner function indicator**

2
Lights when the wake-up timer is set

3
Lights when the sleep timer is active

4 **TUNED**
Lights when a radio broadcast is correctly tuned

5 **STEREO / MONO**
Indicates whether an FM broadcast is being listened to in mono or stereo

6 **RDS** (European model only)
Lights when receiving an RDS broadcast

7 **PTY SEARCH** (European model only)
Lights during a program type search

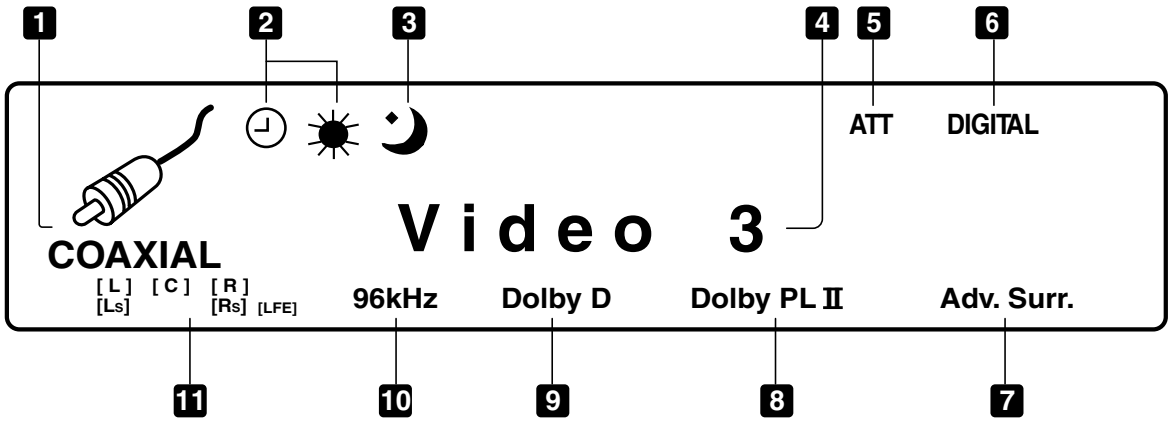
8 **Character display**
Shows the tuner frequency or preset station number

9 **Surround indicator**
Shows **Adv. Surr.** when an Advanced Surround mode is selected, or **Surr. Off**

10 **Dolby PL**II
Lights when Dolby Pro Logic II decoding is selected

11 **AM / FM**
Indicates AM or FM band

8.3.3 Others



1 **TV/Video function indicator**
Shows the type of connection for the current input (**Analog**, **Optical**, **Coaxial** or (European model only) **SCART**)

2
Lights when the wake-up timer is set

3
Lights when the sleep timer is active

4 **Character display**
Shows the input function (**Television**, **Video 1**, **Video 2** or **Video 3**)

5 **ATT**
Lights when the analog input attenuator is on for the current input

6 **DIGITAL**
Lights when the input is digital

7 **Surround indicator**
Indicates the surround type ; **ADV**, **SURR**, **SURR OFF** or **DOWNMIX**

8 **Dolby PL**II
Lights when Dolby Pro Logic II decoding is selected

9 **Audio decoding format indicator**
Shows the decoding format in use ; **Dolby D** (Dolby Digital), **DTS**

10 **Sampling frequency indicator**
Sjows the sampling frequency when a linear PCM soundtrack is playing

11 **Channel indicators**
Show which channels are encoded in the currently playing soundtrack